PFIZER FACTS

Racial Differences in Cardiovascular Health

Findings from the National Health and Nutrition Examination Surveys (NHANES) III and 1999-2000


Pfizer

Racial Differences in Cardiovascular Health

The 1990s brought change in the health status of Americans, for both blacks and whites. Some changes were positive, others were not. Even with change in the correct direction, however, racial disparities in cardiovascular health status and healthcare remain, and in many cases have not narrowed.

On the positive side, heart disease and stroke death rates declined from 1992 to 2000 among both racial groups, but age-adjusted heart disease death rates remain 29% higher and stroke death rates remain 40% higher in blacks. The gap is narrowing with respect to mortality, but risk factor profiles suggest that major improvements are necessary to continue the downward trend.

Several findings point to concern. The prevalence of hypertension is on the rise among both blacks and whites, and is particularly high among middle-aged blacks: 50% of blacks and 30% of whites in this age group have hypertension. While treatment rates have increased for both blacks and whites, the percentage reaching goal among those treated has increased significantly for whites, but not for blacks. While rates of certain cardiovascular procedures are increasing among blacks, they are less likely than whites to undergo cardiac catheterization, coronary artery bypass graft surgery, or percutaneous transluminal coronary angioplasty. When they do undergo these procedures, they are younger than whites. Americans are more obese than ever, and the problem is most alarming among black women. Black women have an obesity rate of 49%, up from 36% in the early part of the decade.

This issue of Pfizer Facts, a collaboration between the National Medical Association and Pfizer, presents new analyses of national databases to gain insight into health status and healthcare issues facing Americans, and specifically focuses on differences and disparities between black and white adults over time. We present comparisons of the National Health and Nutrition Examination Surveys (NHANES) III and 1999-2000, the National Health Interview Surveys (NHIS) 1997 and 2001, the National Hospital Discharge Surveys (NHDS) 1992 and 2000, and national vital statistics reports 1992 and 2000. We present information on mortality, disease prevalence, risk factor prevalence, and healthcare delivery to explore issues, encourage debate, and provide a platform that can lead to the development of effective interventions.

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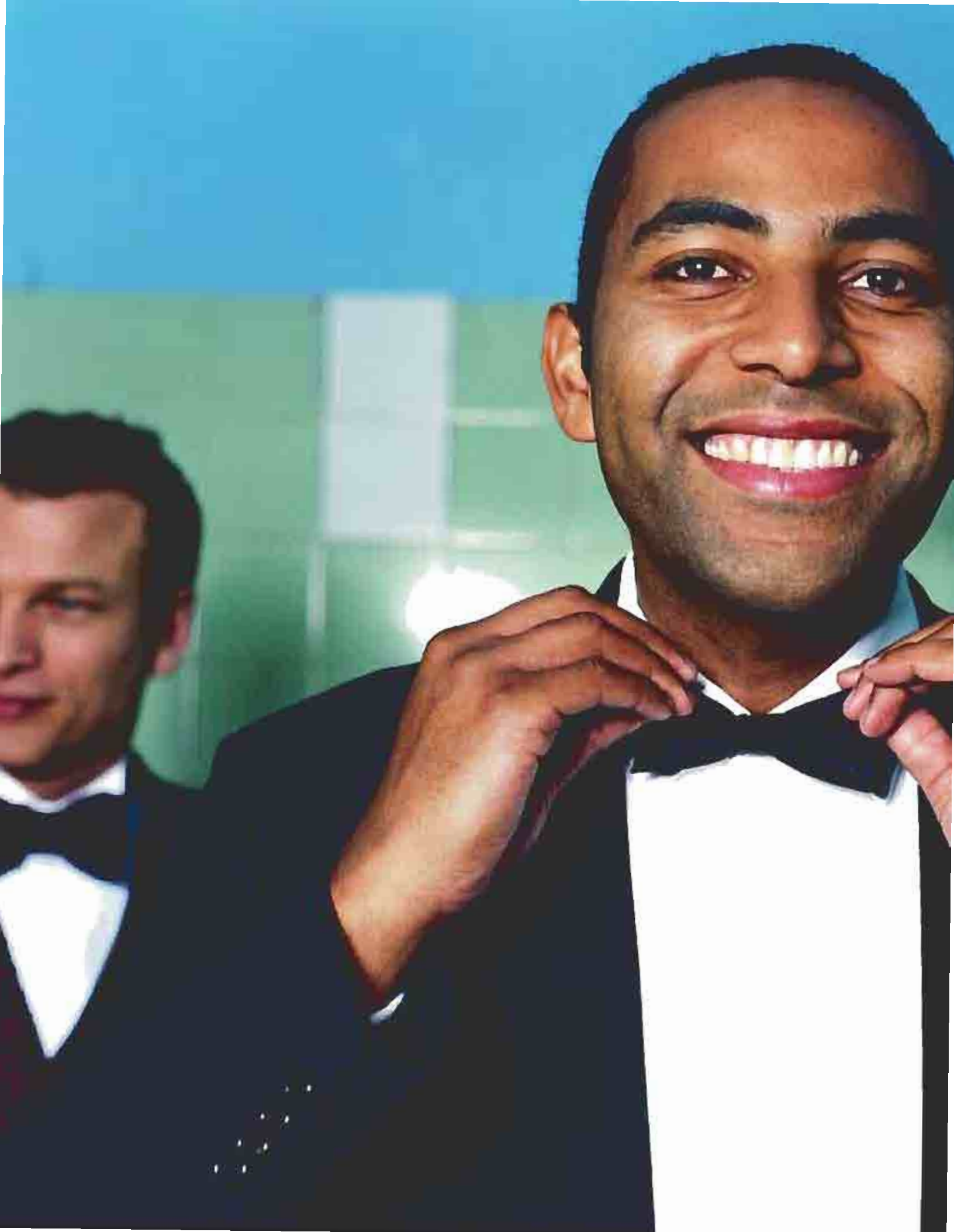

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Highlights

Mortality

- Heart disease continues to be the leading cause of death among blacks and whites, accounting for 28% and 30% of all deaths, respectively, in 2000.
- From 1992 to 2000, age-adjusted heart disease death rates declined 14% among blacks and 16% among whites. Age-adjusted heart disease death rates remain 29% higher in blacks.
- Myocardial infarction (heart attack), one of the many diseases included within the heart disease category, declined 28% among whites but only 19% among blacks.
- Stroke, the third leading cause of death among blacks and whites, accounts for 7% of deaths among each racial group.
- From 1992 to 2000, age-adjusted stroke death rates declined 4% and 2% among blacks and whites, respectively.
- Age-adjusted stroke death rates remain 40% higher in blacks.
- For both races, age-specific stroke mortality is higher among women than men. Stroke deaths account for 6% and 9% of all deaths among black women aged 40 through 59 years and 60 years and older, respectively.

Disease Prevalence

Hypertension

- The prevalence of hypertension is higher among blacks than whites, by gender as well as by age. Prevalence has increased since NHANES III (1988-1994) and is currently 36% for blacks and 30% for whites based on NHANES 1999-2000 data.
- The greatest racial difference is seen among those 40 through 59 years of age: 50% of blacks and 30% of whites in this age group have hypertension, indicating an increase of 24% and 19% among the two groups, respectively.
- Awareness is significantly higher for black women than for white women (82% and 71%, respectively), and is about equal for black men and white men (64% and 66%, respectively).
- The treatment rate is higher for black women than for white women (70% and 61%), and almost equal for black men and white men (52% and 56%).
- The treatment rate is higher among blacks 60 years and older than same-aged whites (76% and 61%, respectively). In NHANES III, the treatment rate among older blacks was 67%.
- Goal attainment is improving among whites but not among blacks. Among those treated for hypertension with prescription medications, 40% of blacks and 54% of whites are at goal, an improvement since NHANES III for whites but no significant change for blacks.

High Cholesterol

- The prevalence of high total cholesterol is lower for blacks than whites (13% and 19%, respectively, in 2000), for both men and women. Over time, the prevalence has decreased among blacks overall, black men, blacks aged 40 and older, and whites aged 60 and older.
- Blacks are less likely to have had their cholesterol checked than whites, 58% vs 75%.
- Treatment rates have approximately doubled from 1992 to 2000 for both blacks and whites, and are currently at comparable levels (31% for blacks and 33% for whites).
- NHANES III indicates hyperlipidemia prevalence rates (based on LDL) of 32% and 36%, respectively, among blacks and whites. Blacks were 22% less likely than whites to be aware of their condition.

Diabetes

- The prevalence of diabetes is 11% among blacks and 8% among whites.
- Diabetes prevalence among blacks 60 years of age and older is more than twice that of whites in this age group, 35% vs 16%.
- The prevalence of diabetes among black women is about twice that of white women, 14% compared with 7%.
- Blacks and whites with diabetes have treatment rates of 59% and 46%, respectively. From NHANES III to NHANES 1999-2000, treatment rates increased 26% among blacks and 11% among whites.

Myocardial Infarction

- The prevalence of myocardial infarction is declining among both blacks and whites, and is decreasing most among black women. Overall, the rate among blacks declined from 3% to 2¼%. Among black women, the rate declined from almost 3% to just over 1%.

Congestive Heart Failure

- The prevalence rate of congestive heart failure is 2% among both blacks and whites; however, among those 60 years and older, the rate is 9% among blacks and 6% among whites.

Stroke

- The overall prevalence of stroke is higher among blacks than whites (3% compared with 2%). Among those 60 or older, 11% of blacks and 7% of whites report in NHANES 1999-2000 having had a stroke, unchanged from the NHANES III estimates.

Cardiovascular Procedures

Coronary Artery Bypass Graft (CABG)

- In 2000, among those hospitalized for circulatory system disorders, blacks were half as likely as whites to undergo a CABG (40 per 1,000 discharges among blacks and 81 per 1,000 discharges among whites). Since 1992, the rate has increased among blacks but decreased among whites (23 per 1,000 and 90 per 1,000, respectively).
- The greatest disparity is among middle-aged adults, with blacks in this age group undergoing 46 procedures per 1,000 discharges, compared with 124 procedures per 1,000 discharges for middle-aged whites.

Percutaneous Transluminal Coronary Angioplasty (PTCA)

- The rate of PTCA procedures among blacks is far lower than among whites, 37 procedures per 1,000 discharges compared with 85 per 1,000 discharges. The rate for blacks has almost doubled since 1992, and has increased 26% for whites.

Cardiac Catheterization

- Cardiac catheterization is performed less often among blacks than whites. The rates are 248 per 1,000 circulatory system hospital discharges among blacks and 396 per 1,000 discharges among whites. There has been essentially no change between 1992 and 2000.

Behavioral Risk Factors

Smoking

- The prevalence of smoking has declined among both racial groups, both genders, and all adult age groups, and, at 26%, is now equal among blacks and whites.
- With a 27% decrease in smoking among black women, they are now 14% less likely to be smokers than white women. Almost 21% of black women currently smoke.
- Although smoking has decreased 19% among black men, black men continue to have a higher smoking rate than white men, 33% vs 28%, respectively.

Obesity

- Obesity is a problem for the entire population, has worsened over time, and is particularly severe among black women. Forty percent of black adults and 29% of white adults are now classified as obese (body mass index greater than or equal to 30), up from 29% and 21%, respectively.
- Approximately 50% of black women are obese, up from 36% in NHANES III.
- Although the youngest adults (20 through 39) have the lowest rate of obesity, both blacks and whites in this age group experienced the greatest increase in obesity over the time period, 48% and 43%, respectively.

Low Exercise

- Both blacks and whites are exercising more. In NHANES III, 24% of blacks and 22% of whites reported being less active than their peers. These self-reported rates of low exercise have declined to 19% and 18% among blacks and whites, respectively.

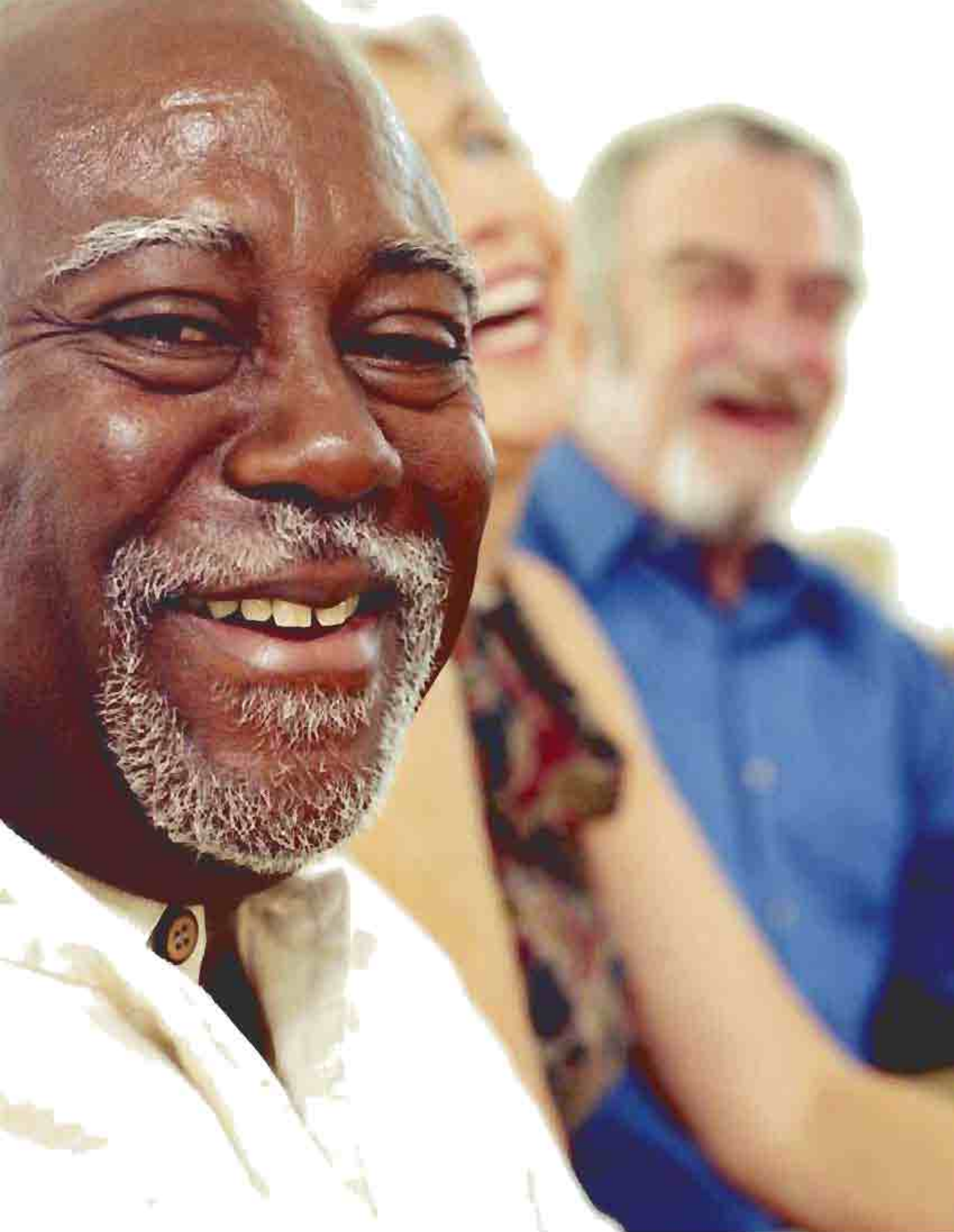
Healthcare Environment

Usual Source of Care

- In 1997, 21% of black men and 10% of black women reported having no usual source of care. The situation is improving. In 2001, 17% and 8% of black men and women, respectively, reported no usual source of care.

Health Insurance

- Blacks are almost twice as likely as whites to lack health insurance coverage. In 2001, 20% of blacks and 11% of whites reported having no health insurance. There has been essentially no change since 1997.



Mortality

Heart disease continues to be the leading cause of death among blacks and whites, accounting for 28% and 30% of all deaths, respectively, in 2000. While heart disease and stroke have declined among both racial groups from 1992 to 2000, age-adjusted heart disease death rates remain 29% higher in blacks, and stroke death rates remain 40% higher. Analysis of myocardial infarction (one of the many diseases included within the heart disease category) indicates that this same time period produced a 28% decrease in age-adjusted death rates among whites but only a corresponding 19% decline among blacks. In 2000, age-adjusted death rates for heart disease, stroke, and myocardial infarction among blacks were 29%, 40%, and 17% higher, respectively, than these rates among whites.

Age-Adjusted Death Rates* (per 100,000) for Selected Causes by Race and Gender, 1992 and 2000

Cause of Death	Year	Total Population		Men		Women	
		Black	White	Black	White	Black	White
Heart Disease							
	1992	377.6	301.1	465.1	386.3	317.5	239.1
	2000	326.5	253.6	382.7	311.9	284.1	207.5
Stroke							
	1992	86.0	59.8	94.9	62.6	79.4	57.4
	2000	82.4	58.7	87.1	58.6	78.1	57.8

*Age-adjusted rates per 100,000 US standard population based on year 2000 standard.

For both races, stroke mortality is higher among women than men at each age group and highest among black women. In 2000, stroke deaths accounted for 6.2% and 9.2% of all deaths among black women aged 40 through 59 years, and 60 years and older, respectively. Age-specific death rates for heart disease are higher in black women compared with white women: the rate is 21.7% and 15.4%, respectively, among women aged 40 through 59 years.

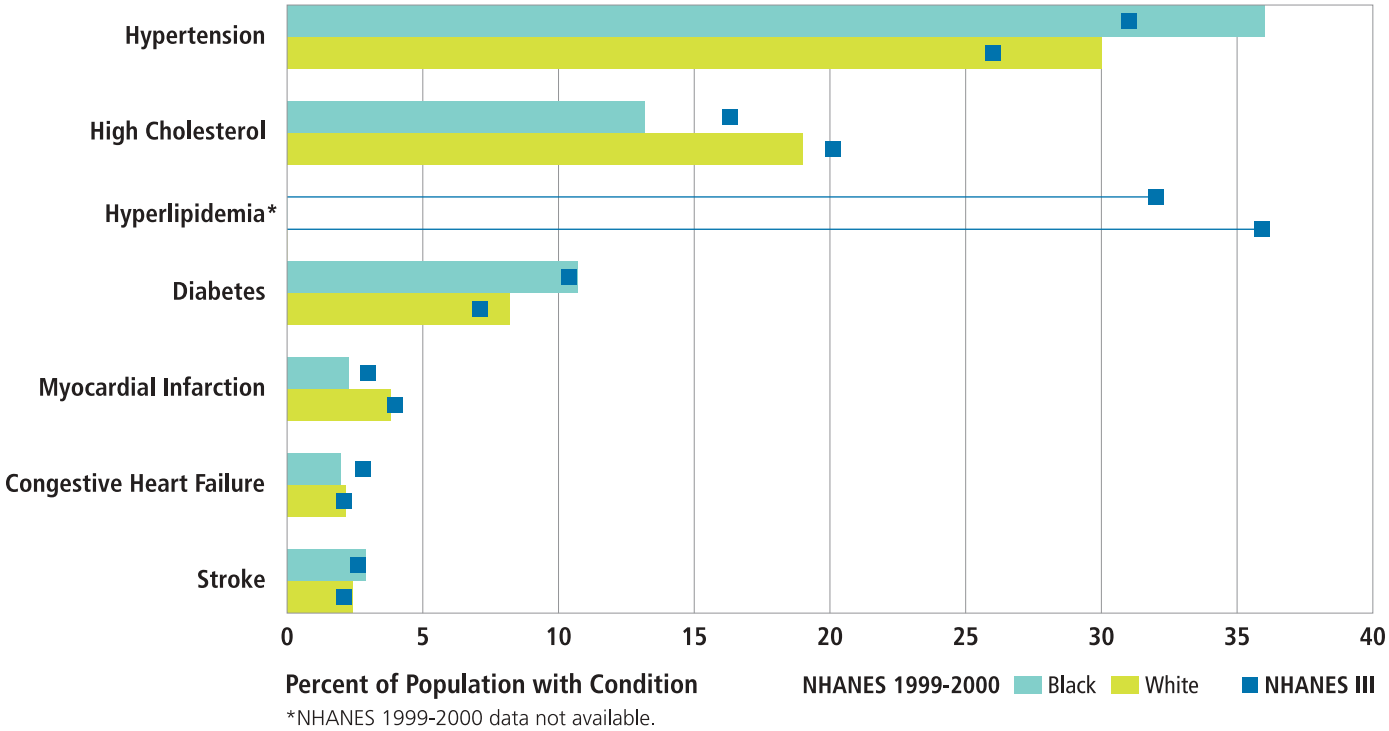
Percent of Total Deaths for Selected Causes of Death by Race, Gender, and Age, 2000

Cause of Death	Age	Total Population		Men		Women	
		Percent					
		Black	White	Black	White	Black	White
Heart Disease							
	All adults	27.9	30.3				
	20-39	9.9	7.9	8.9	7.9	11.8	8.0
	40-59	23.6	22.3	24.8	26.4	21.7	15.4
	60+	32.4	32.6	30.9	32.8	33.7	32.5
Stroke							
	All adults	6.9	7.0				
	20-39	2.1	1.6	1.4	1.2	3.3	2.5
	40-59	5.4	3.2	4.8	2.8	6.2	3.9
	60+	8.2	7.9	7.1	6.4	9.2	9.1

Disease Prevalence

The prevalence of hypertension and diabetes among blacks exceeds the prevalence among whites. Over time, hypertension rates have increased in both racial groups while the prevalence rates for other diseases have remained stable. In the following sections we explore gender- and age-specific prevalence rates as well as other important issues such as awareness, treatment, and control.

Prevalence of Cardiovascular Conditions by Race



*NHANES 1999-2000 data not available.

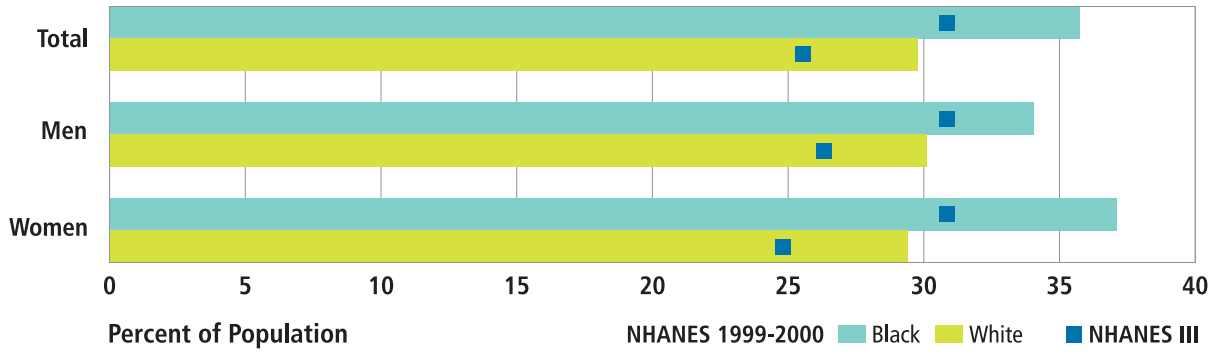
Hypertension

Prevalence

The prevalence of hypertension has increased among both blacks and whites since 1992. The rate among blacks continues to exceed the rate among whites. Based on data from the NHANES 1999-2000 survey, the prevalence of hypertension is 36% among blacks and 30% among whites. Based on data from NHANES III (1988-1994), the prevalence of hypertension was 31% and 26% among blacks and whites, respectively.

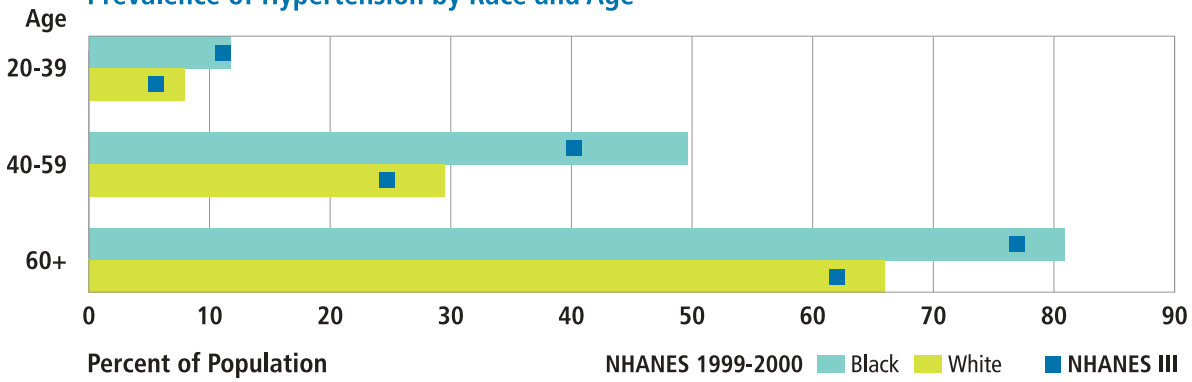
The same pattern emerges by gender and by age. In 1999-2000, black women had a slightly higher prevalence of hypertension than black men (37% vs 34%) while rates were essentially equal among white women and men (29% vs 30%).

Prevalence of Hypertension by Race and Gender



The greatest racial difference is seen among those 40 through 59 years of age: 50% of blacks and 30% of whites tested positive for hypertension in 1999-2000. This age group also experienced a great increase in prevalence over time. Prevalence increased 24% among blacks and 19% among whites.

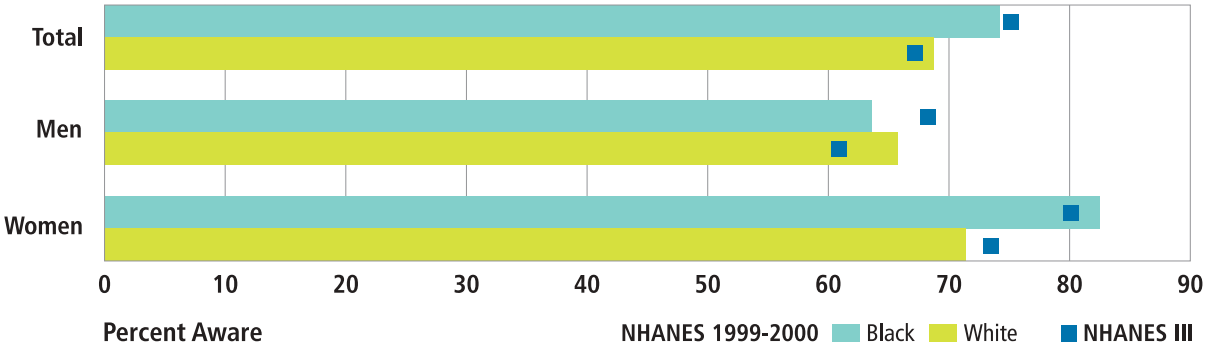
Prevalence of Hypertension by Race and Age



Awareness

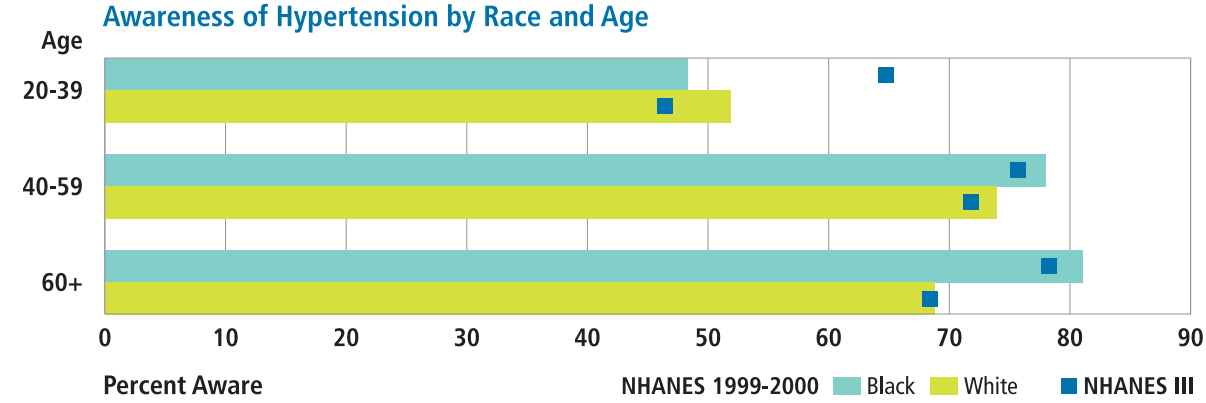
At 9%, the prevalence of undiagnosed hypertension is equal in the black and white populations. However, the awareness rate – that is, the percentage of prevalent cases that are diagnosed – is higher among blacks. Seventy-four percent of blacks and 69% of whites with hypertension have been diagnosed. Neither rate has significantly changed since NHANES III when awareness was 75% among blacks and 67% among whites. Awareness is considerably higher in black women than in black men, 82% vs 64%.

Awareness of Hypertension by Race and Gender



Awareness has decreased 26% among the youngest group of blacks. During the NHANES III examination, 65% of blacks aged 20 through 39 with hypertension were aware of their condition (had previously been told by a doctor they have high blood pressure), but during the NHANES 1999-2000 examination, only 48% in this group were aware.

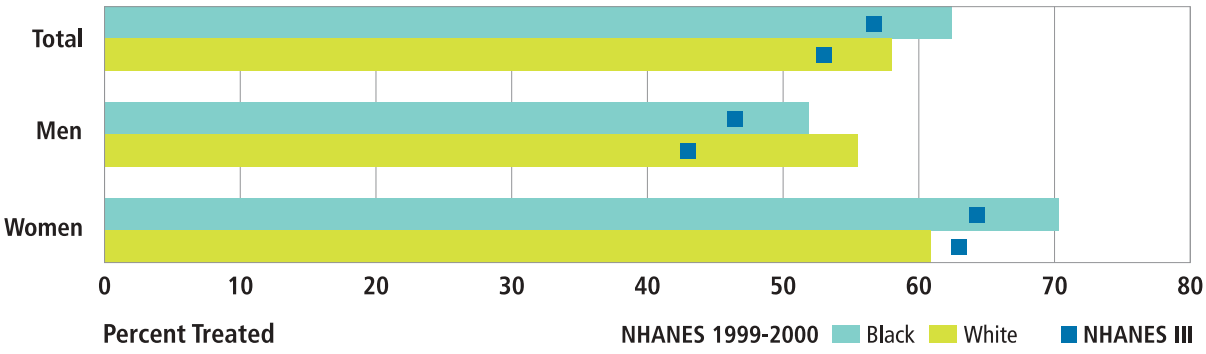
Awareness of Hypertension by Race and Age



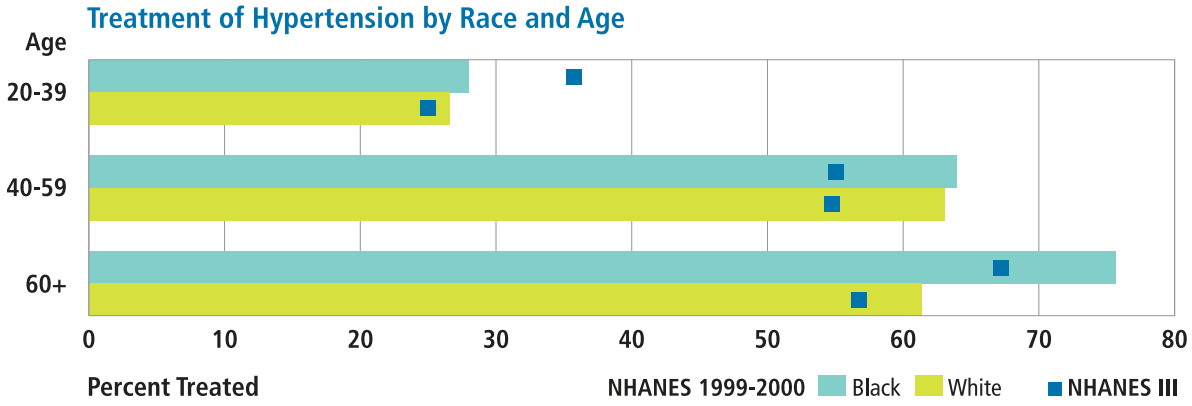
Treatment and Control

Treatment rates are slightly higher among blacks than whites, 62% vs 58%. Rates have increased by over 9% in each racial group since NHANES III when 57% and 53% of blacks and whites, respectively, were treated. Regardless of race, women are more likely than men to be treated. Seventy percent of black women and 52% of black men are treated; 61% of white women and 56% of white men are treated.

Treatment of Hypertension by Race and Gender



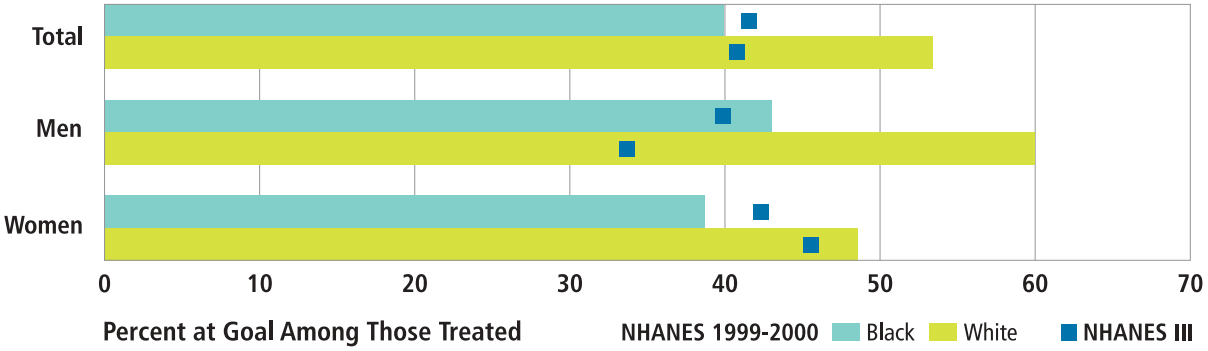
Treatment rates among prevalent cases declined from NHANES III to NHANES 1999-2000 among blacks aged 20 through 39, from 38% to 28%. At 76%, treatment remains highest among blacks 60 years of age and older.



Among blacks with hypertension, only 25% have their blood pressure controlled at goal. This is virtually unchanged from the 24% control rate observed in NHANES III. In contrast, the control rate among whites with hypertension improved from 22% to 31%.

Of those treated for hypertension with prescription medications, fewer blacks than whites achieved blood pressure control (40% compared with 54% percent). By comparison, the control rates among those treated in NHANES III were 42% and 41% for blacks and whites, respectively, indicating an improvement in treatment effectiveness among the white but not the black population.

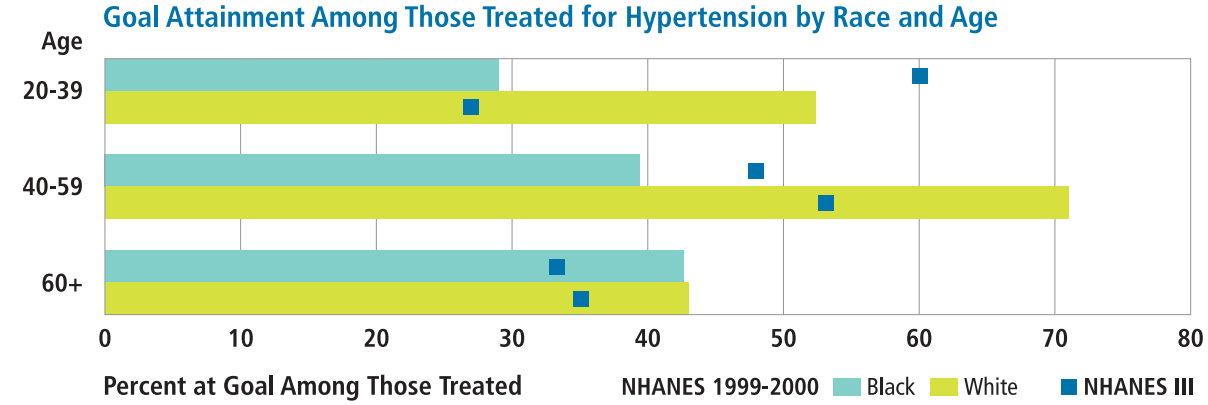
Goal Attainment Among Those Treated for Hypertension by Race and Gender



Over time, goal attainment among blacks in the 40 through 59 year age group decreased 16%, while among whites in this age group it increased by 32%.

Among blacks, goal attainment increased over time only among those 60 years and older. During the NHANES III time period, 33% of older blacks achieved treatment goal. This rose to 43% in 1999-2000, representing a 30% increase in treatment effectiveness over time.

Goal Attainment Among Those Treated for Hypertension by Race and Age



High Cholesterol

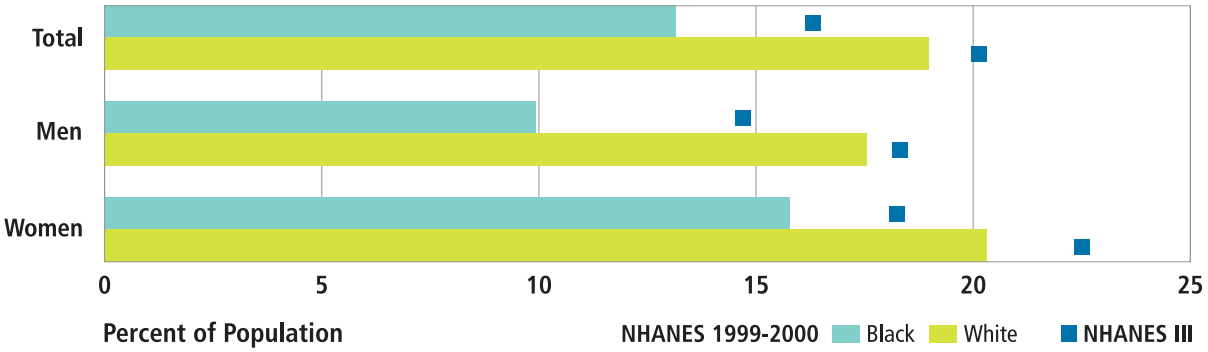
The Adult Treatment Panel Guidelines (ATP) of the National Cholesterol Education Program (NCEP) provide criteria for classifying and treating high blood cholesterol based on LDL cholesterol. The guidelines also provide a definition of high cholesterol based on total serum cholesterol. As of the date of this issue of Pfizer Facts, the National Center for Health Statistics (NCHS) had not released the NHANES 1999-2000 measurements of LDL and HDL cholesterol. Consequently, this section presents a comparison of high total cholesterol among blacks and whites based on both NHANES III and NHANES 1999-2000. A racial comparison of hyperlipidemia based on LDL cholesterol is limited to NHANES III data and uses the LDL-based hyperlipidemia definitions provided in ATP III.

Total Cholesterol Analysis

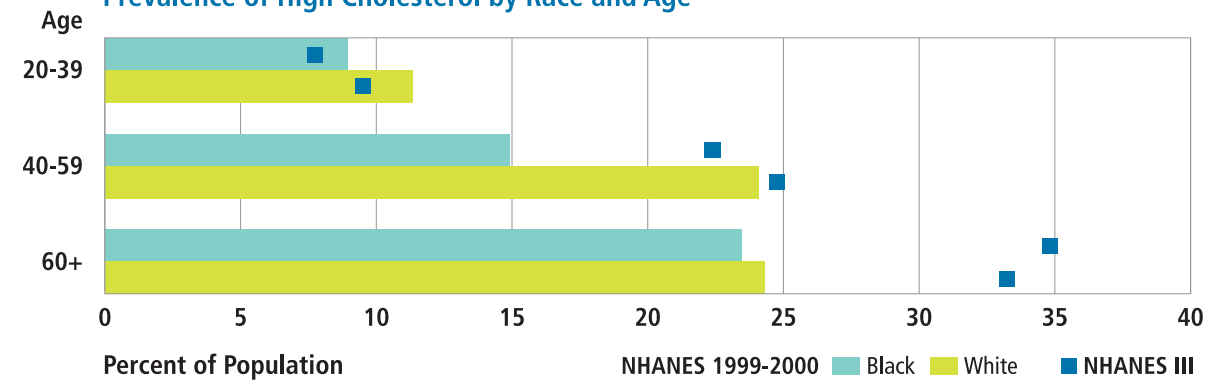
Prevalence

Data from NHANES 1999-2000 indicate the prevalence of high cholesterol (total cholesterol greater than or equal to 240 mg/dL) among blacks is lower than among whites, 13% vs 19%, and is also lower among each gender. The overall prevalence of high cholesterol among blacks has decreased over time from 17%. Significant decreases are also observed among black men, blacks aged 40 and older, and whites aged 60 and older.

Prevalence of High Cholesterol by Race and Gender



Prevalence of High Cholesterol by Race and Age

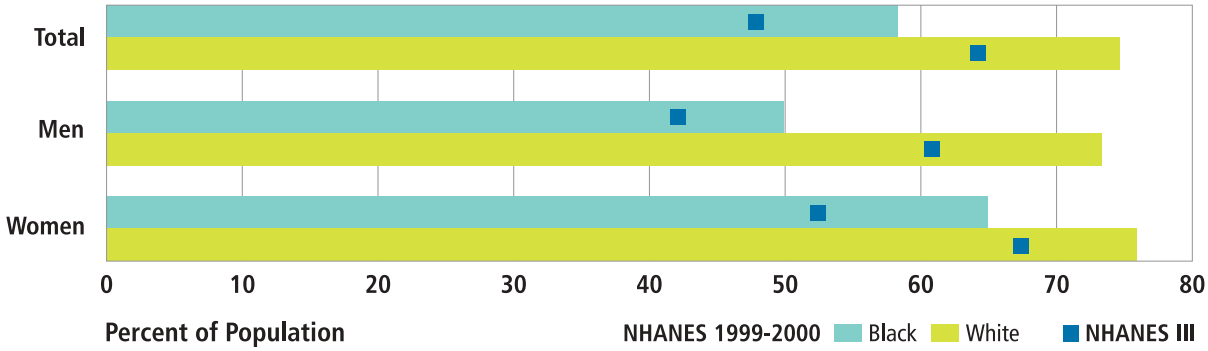


Awareness

Cholesterol screening is a necessary first step toward awareness. The rate of cholesterol screening has improved from NHANES III to NHANES 1999-2000, as measured by whether a person reported ever having had his/her cholesterol checked. In NHANES III, 48% of blacks reported having had their cholesterol checked, compared with 64% of whites. Since then, screening rates have increased 22% among blacks and 16% among whites; however, the screening rate among blacks (58%) continues to lag behind that of whites (75%). Only half of black men have had their cholesterol checked, compared with 73% of white men.

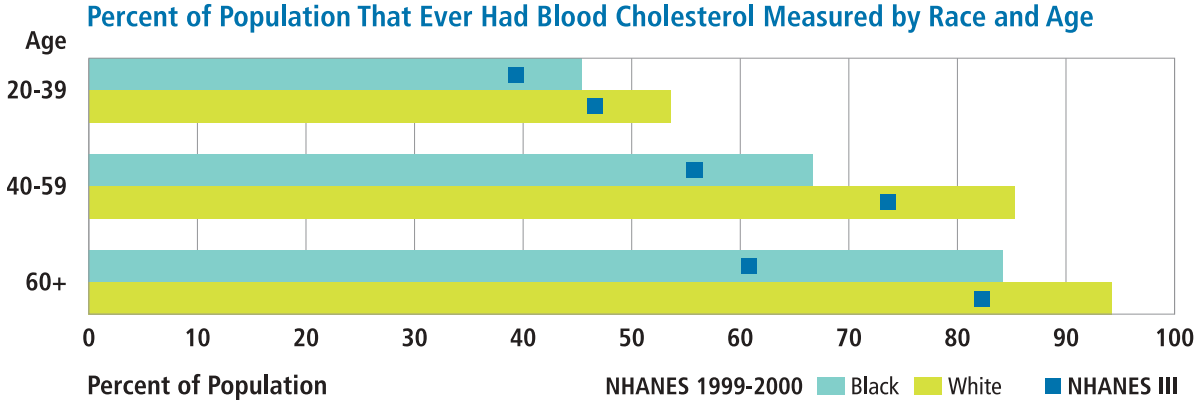
Of persons reporting in NHANES 1999-2000 that they had their cholesterol checked, 29% of blacks and 37% of whites report being told by a doctor they had high cholesterol.

Percent of Population That Ever Had Blood Cholesterol Measured by Race and Gender



The greatest increase in screening over time, 39%, was observed among blacks 60 years and older. Even with this screening increase, however, blacks in this age group are 11% less likely than their white counterparts to report having been screened.

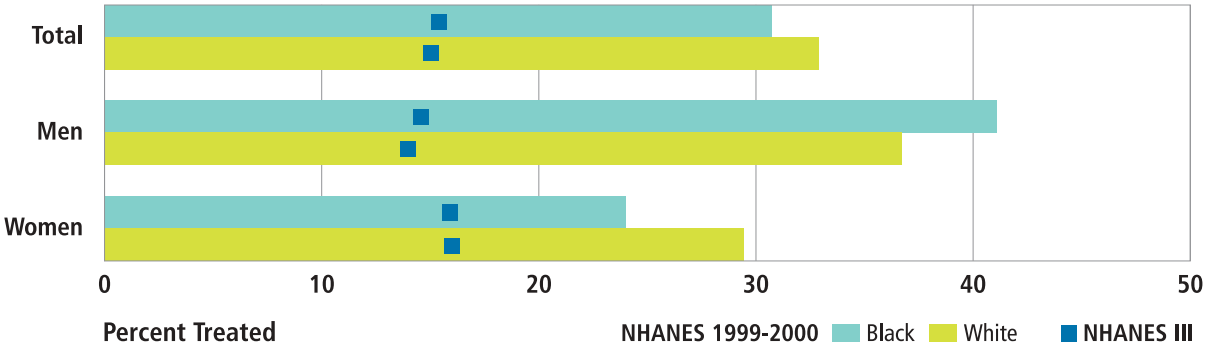
Percent of Population That Ever Had Blood Cholesterol Measured by Race and Age



Treatment

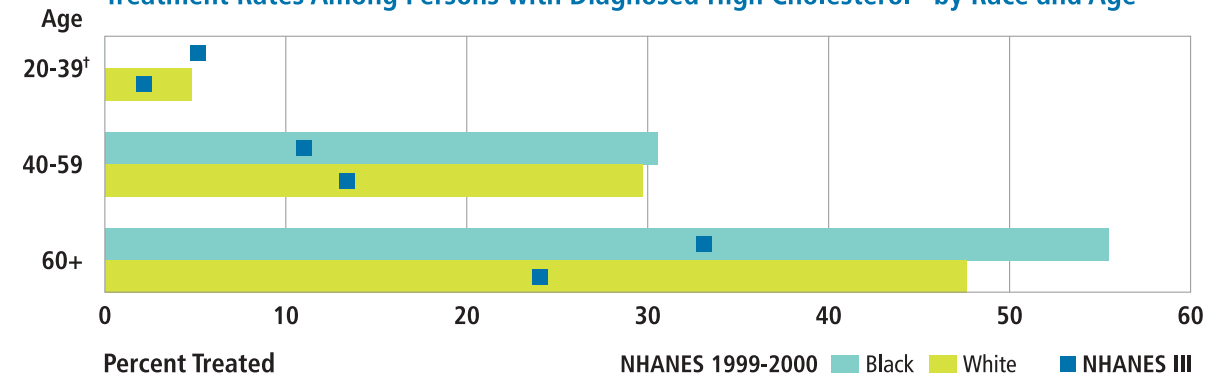
Treatment rates have approximately doubled from NHANES III to NHANES 1999-2000 for both blacks and whites, and are at comparable levels. Most of the gains have occurred among men, with treatment rates among black men increasing almost threefold and rates among white men increasing twofold. In contrast, treatment rates increased 51% and 84% among black and white women, respectively. Among those told by a physician that they had high cholesterol, only 15% of each racial group responded in the earlier survey that they were taking prescription drugs. By the time of NHANES 1999-2000, the rates had jumped to 31% and 33% for blacks and whites, respectively.

Treatment Rates Among Persons with Diagnosed High Cholesterol* by Race and Gender



*Total cholesterol ≥ 240 mg/dL

Treatment Rates Among Persons with Diagnosed High Cholesterol* by Race and Age



*Total cholesterol ≥ 240 mg/dL

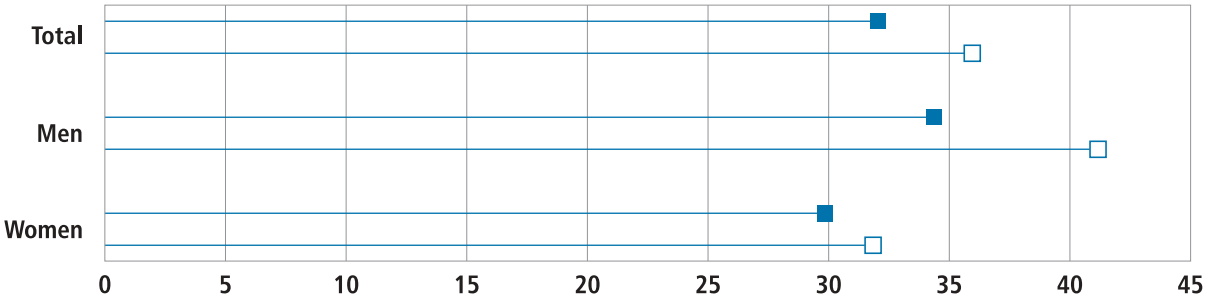
†Absence of NHANES 1999-2000 data for blacks aged 20-39 reflects insufficient sample size.

LDL Analysis

Prevalence

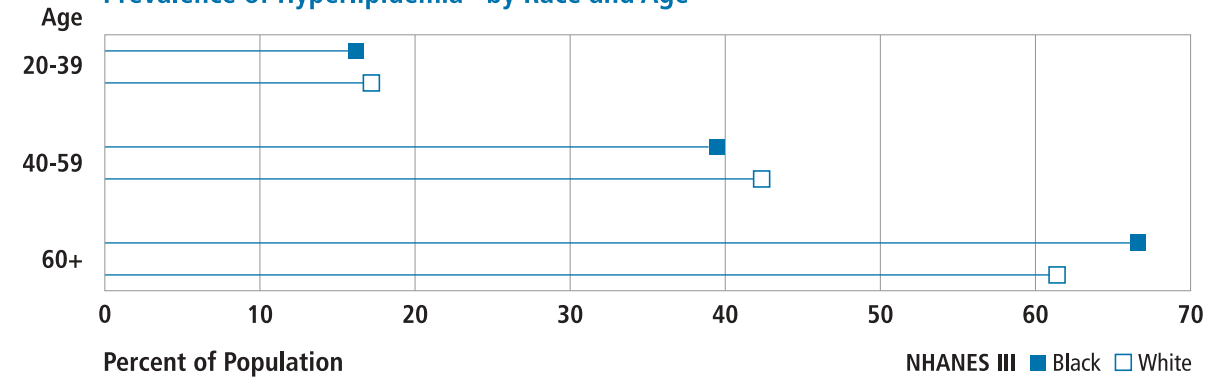
The prevalence of hyperlipidemia in NHANES III was similar among blacks and whites, 32% and 36%, respectively. For both racial groups, prevalence rates were comparable across all gender and age groups.

Prevalence of Hyperlipidemia* by Race and Gender



*Defined by LDL

Prevalence of Hyperlipidemia* by Race and Age

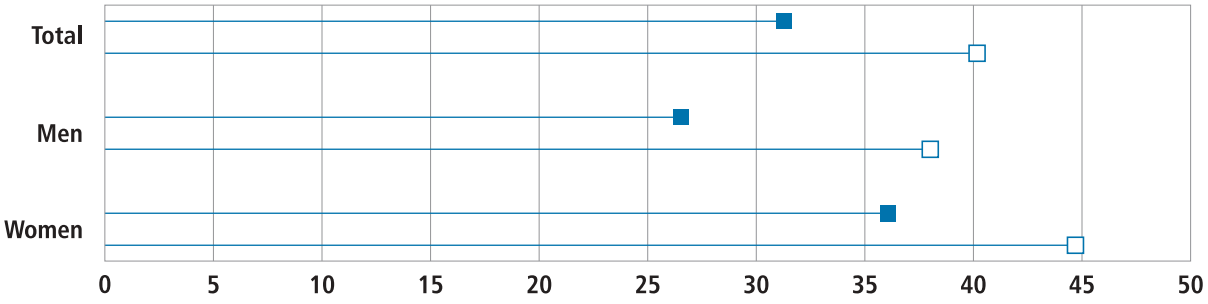


*Defined by LDL

Awareness

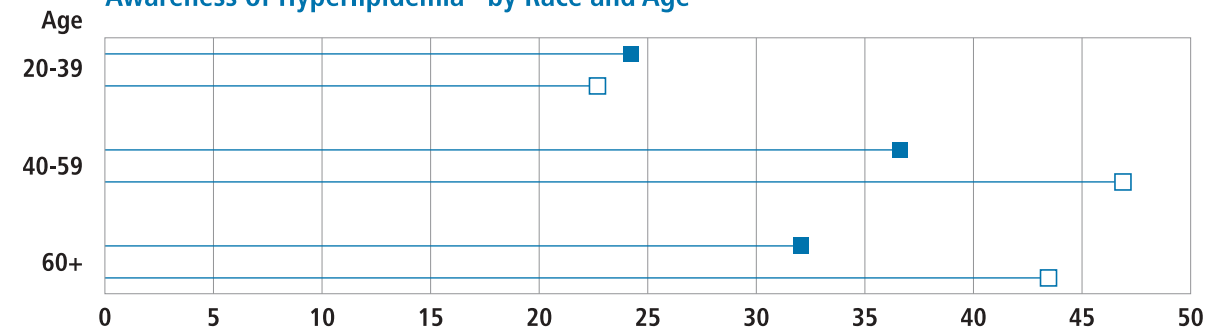
Based on LDL data available in NHANES III, the prevalence of undiagnosed hyperlipidemia was 22% for both blacks and whites, thus resulting in awareness rates of 31% and 41% among blacks and whites, respectively. Overall, among those who tested positive for hyperlipidemia, blacks were 22% less likely to be aware of their condition than whites. Black men were 29% less likely to be aware, and black women were 19% less likely to be aware of their condition, than their white counterparts. Blacks 60 years and older were 27% less likely to be aware than whites in this age group.

Awareness of Hyperlipidemia* by Race and Gender



*Defined by LDL

Awareness of Hyperlipidemia* by Race and Age

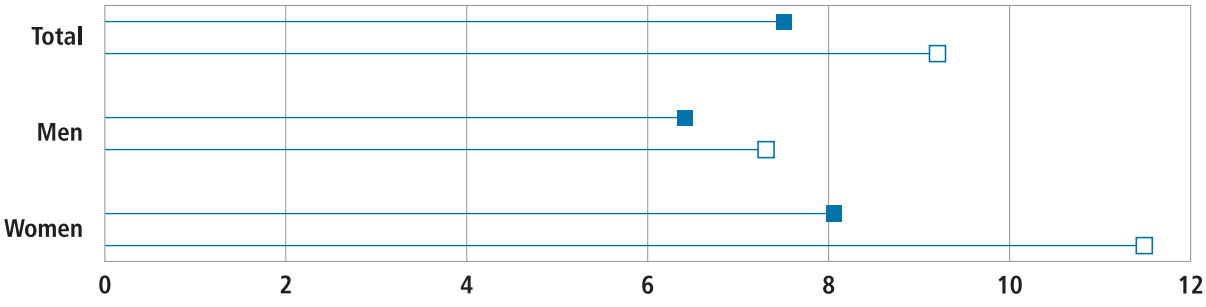


*Defined by LDL

Treatment and Control

Based on NHANES III, over 7% of blacks and over 9% of whites with hyperlipidemia based on LDL goal were treated. The greatest disparity was among women: 8% of black women and 11% of white women with hyperlipidemia were treated.

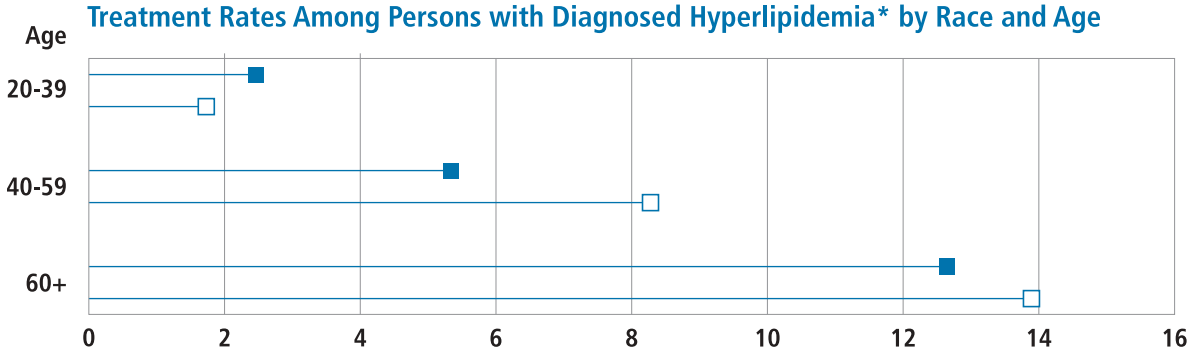
Treatment Rates Among Persons with Diagnosed Hyperlipidemia* by Race and Gender



*Defined by LDL

Treatment rates were highest among those 60 years of age and older, with 13% of blacks and 14% of whites in this age group being treated. The greatest disparity was among middle-aged blacks with diagnosed hyperlipidemia, with blacks aged 40 through 59 being 34% less likely to be treated than similarly aged and diagnosed whites.

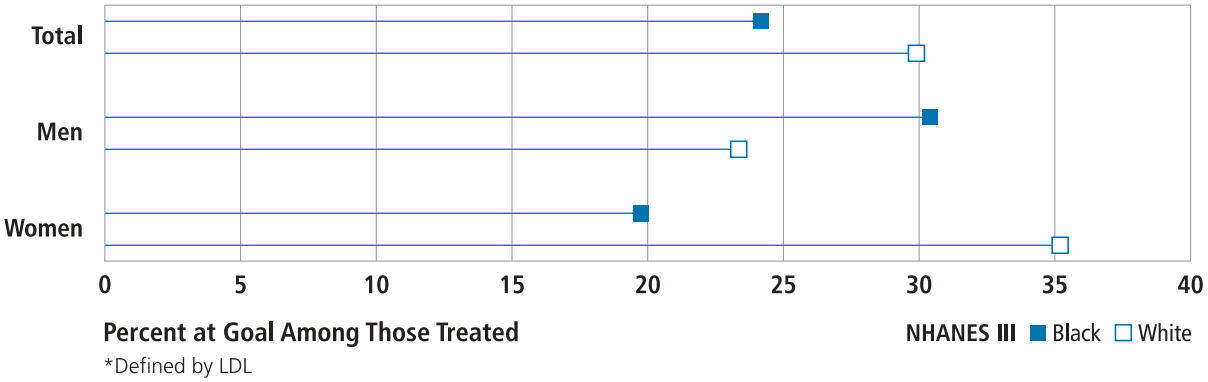
Treatment Rates Among Persons with Diagnosed Hyperlipidemia* by Race and Age



*Defined by LDL

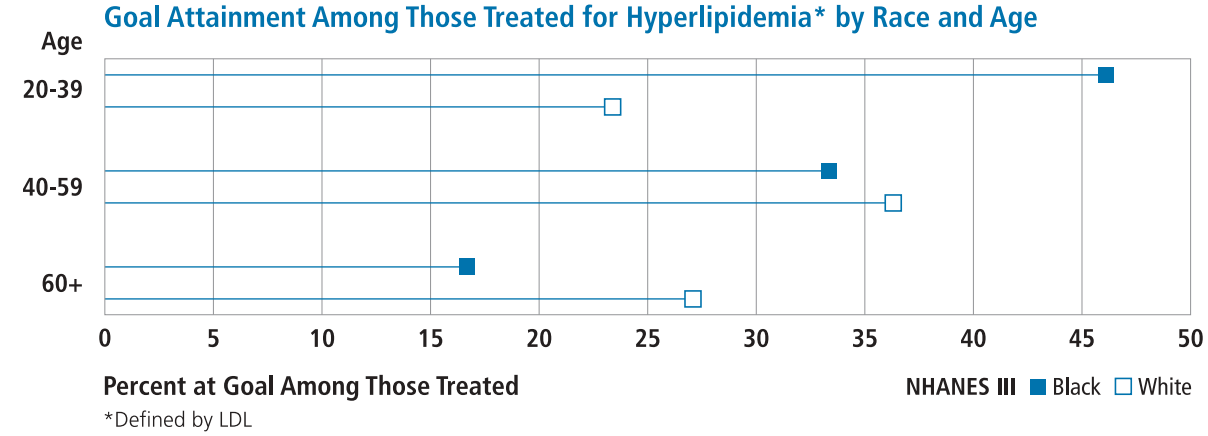
Among those treated for hyperlipidemia at the time of the NHANES III examination, 24% of blacks and 30% of whites were at goal based on ATP III guidelines. However, black men were 33% more likely to be at goal than white men, with 30% and 23%, respectively, attaining goal. Black women were 44% less likely to attain goal. At a goal attainment rate of 16%, blacks 60 years of age and older were least likely to be controlled than any other race-, gender- or age-specific group.

Goal Attainment Among Those Treated for Hyperlipidemia* by Race and Gender



*Defined by LDL

Goal Attainment Among Those Treated for Hyperlipidemia* by Race and Age



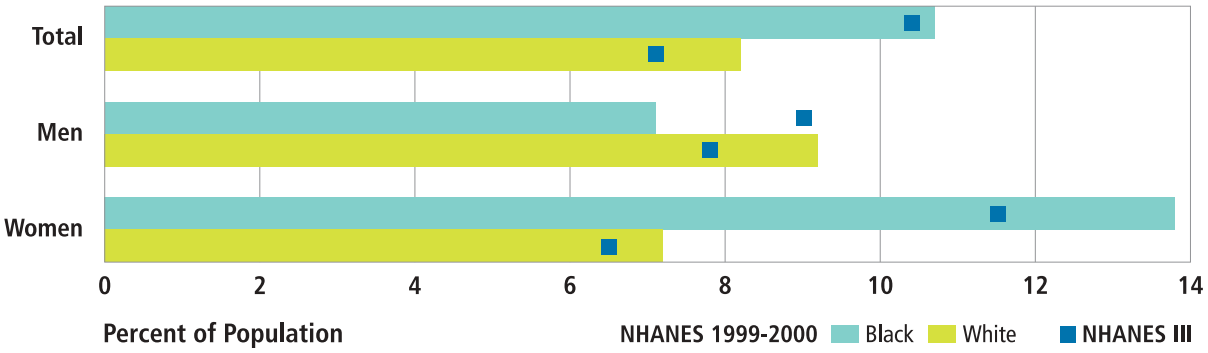
*Defined by LDL

Diabetes

Prevalence

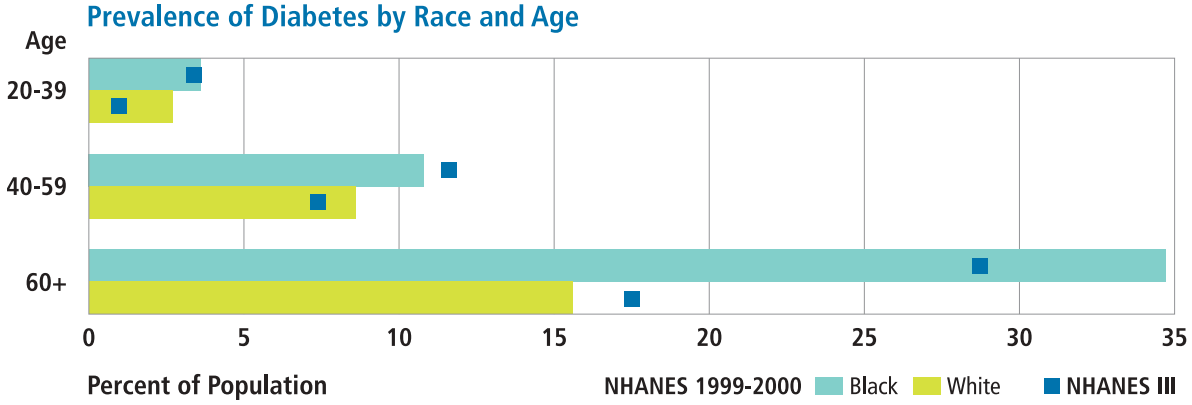
The prevalence of diabetes in the black population exceeds that of the white population, 11% vs 8%, based on NHANES 1999-2000. It is about twice as prevalent in black females (14%) as it is in white females (7%). Diabetes prevalence has changed slightly since NHANES III, when it was estimated at 10% among blacks and 7% among whites.

Prevalence of Diabetes by Race and Gender



The prevalence of diabetes among blacks 60 years of age and older is more than twice that of their white counterparts, 35% compared with 16%.

Prevalence of Diabetes by Race and Age

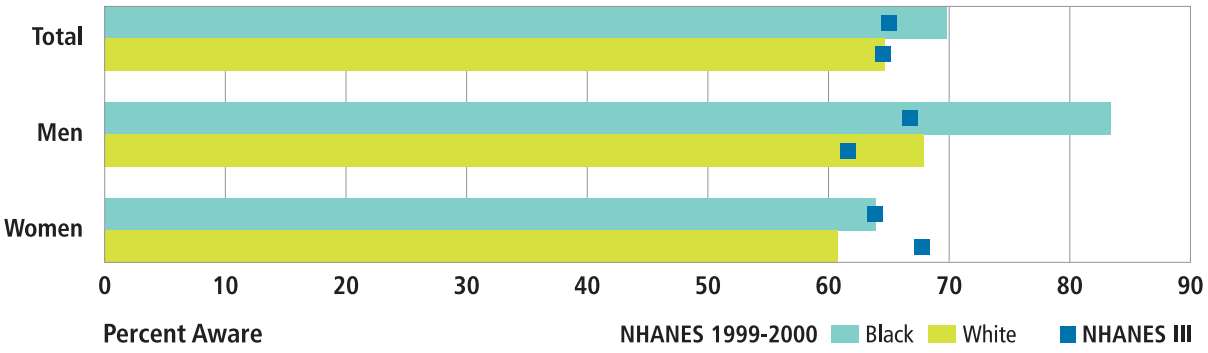


Awareness

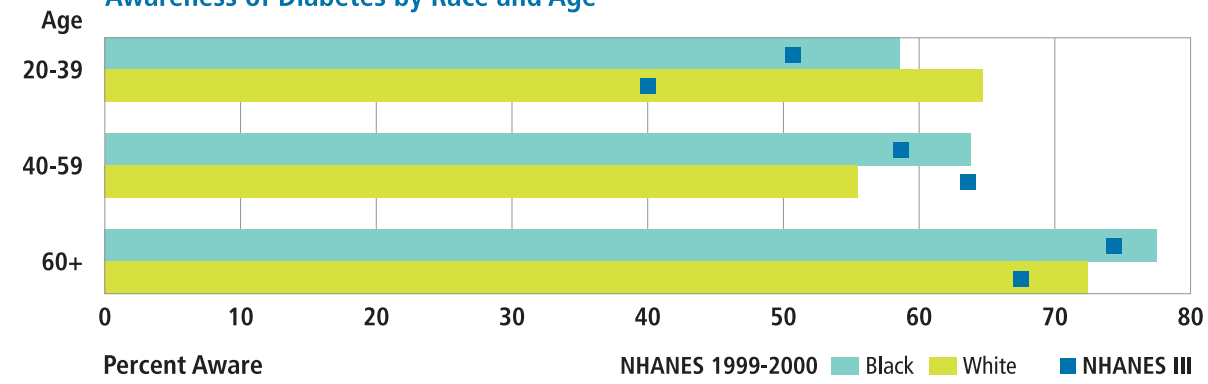
In both racial groups, about 3% of the adult population has undiagnosed diabetes. This is essentially unchanged from NHANES III, when 4% of blacks and 3% of whites were undiagnosed.

No significant difference in diabetes awareness rates is evident in NHANES 1999-2000 data, 70% for blacks and 65% for whites.

Awareness of Diabetes by Race and Gender



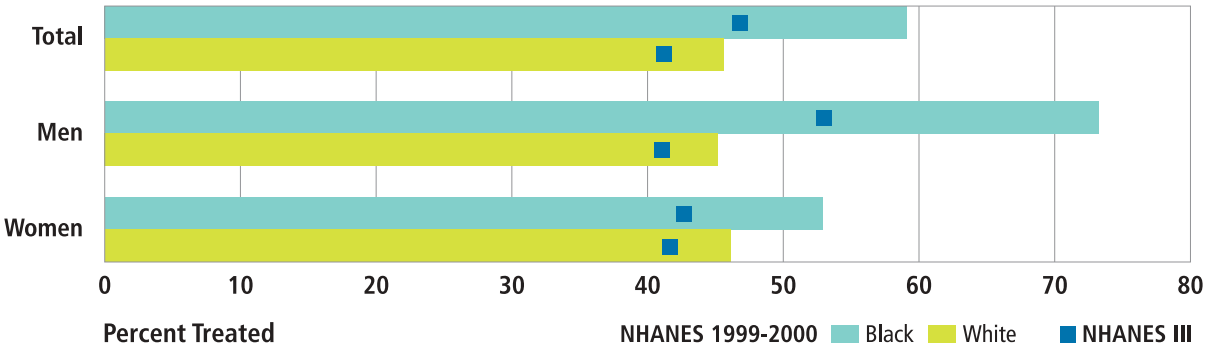
Awareness of Diabetes by Race and Age



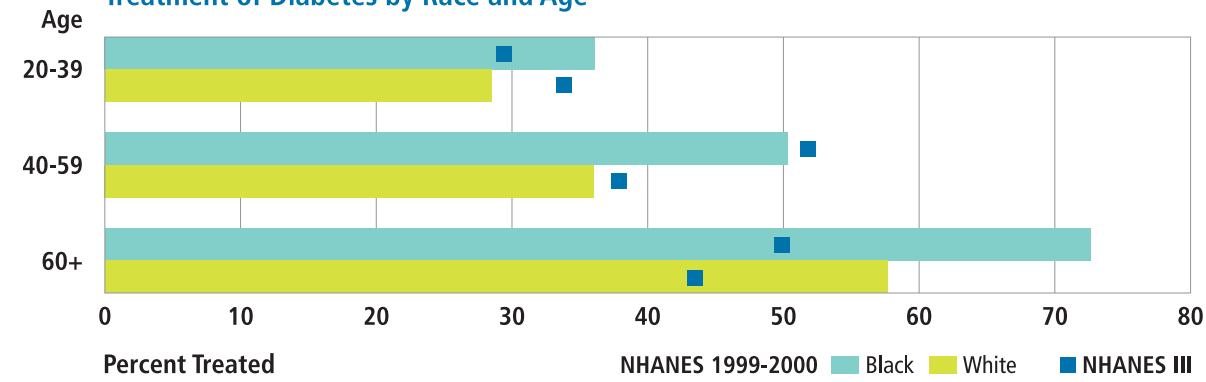
Treatment and Control

Blacks with diabetes have a higher treatment rate than whites (59% vs 46%), up from 47% and 41%, respectively, since NHANES III.

Treatment of Diabetes by Race and Gender

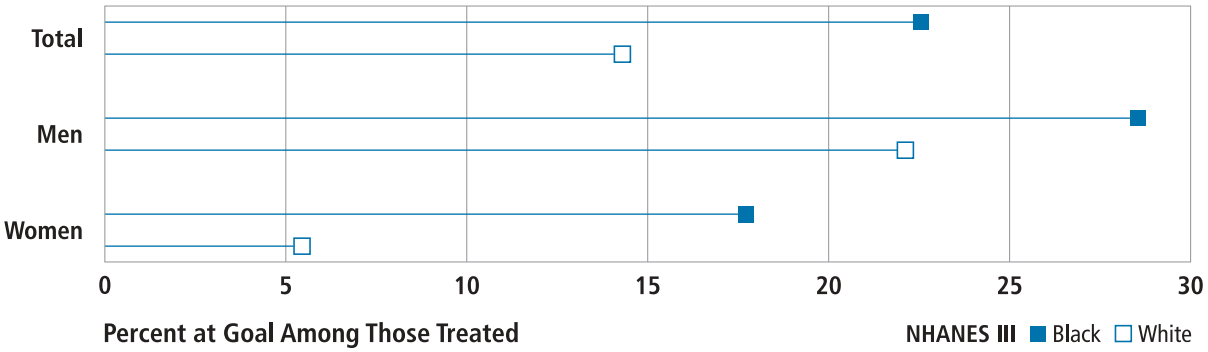


Treatment of Diabetes by Race and Age

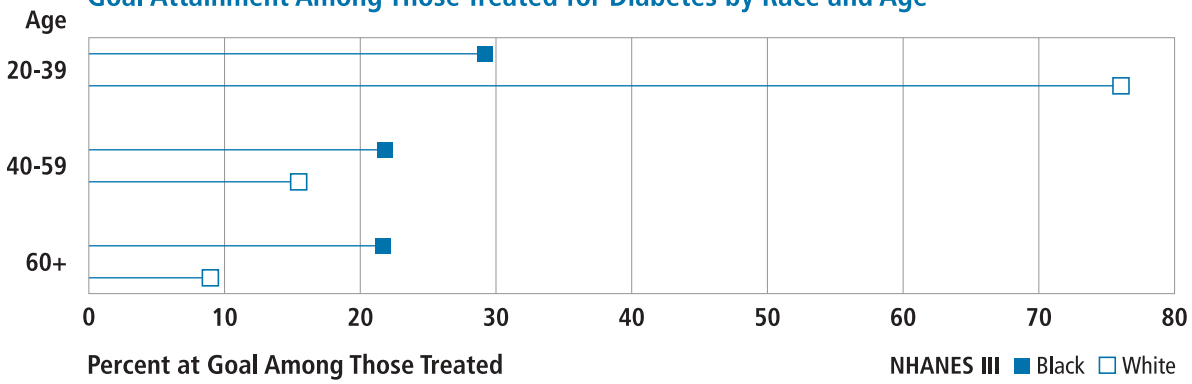


In NHANES III the control rate (percent whose fasting plasma glucose is less than 126 mg/dL) among prevalent cases was low and about equal for blacks and whites, 21% and 18%, respectively. Among those treated with prescription medications, 23% of blacks and 14% of whites reached goal. Control rates cannot be reliably estimated by race from NHANES 1999-2000 because of inadequate sample sizes.

Goal Attainment Among Those Treated for Diabetes by Race and Gender



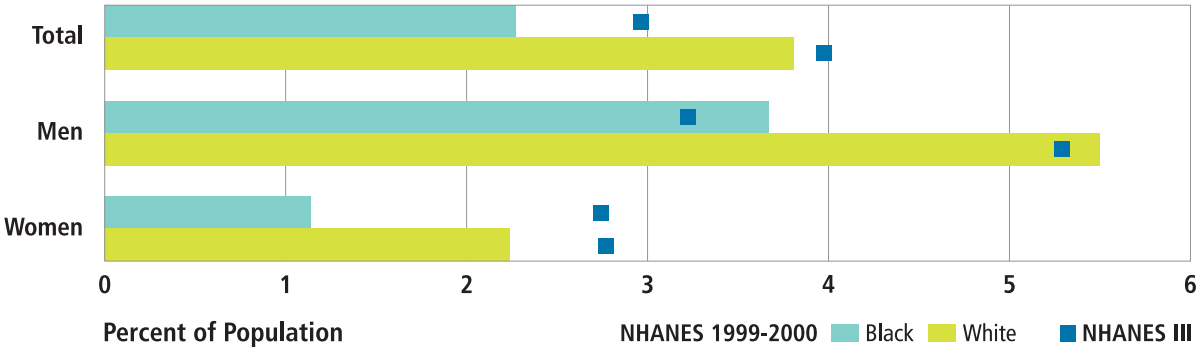
Goal Attainment Among Those Treated for Diabetes by Race and Age



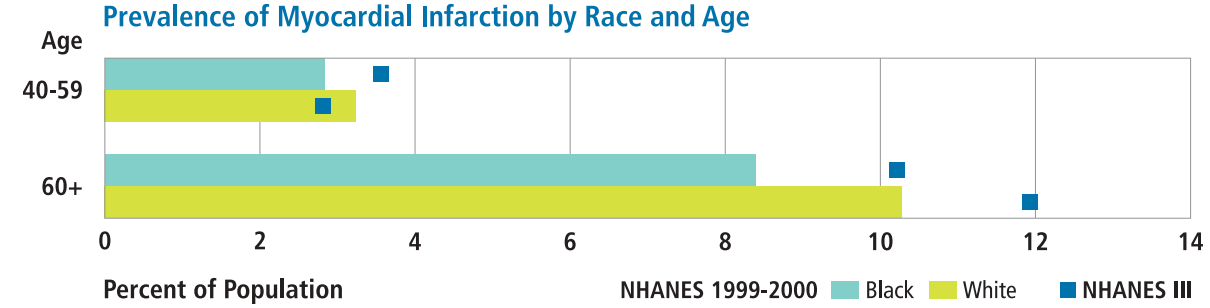
Myocardial Infarction

The prevalence of prior myocardial infarction (MI) is higher among whites than blacks in both NHANES surveys. The prevalence among whites was almost 4% in both surveys. The prevalence among blacks was 3% in NHANES III and decreased to 2¼% in NHANES 1999-2000. Over time, the prevalence rate has decreased among black women, from 3% to just over 1%.

Prevalence of Myocardial Infarction by Race and Gender



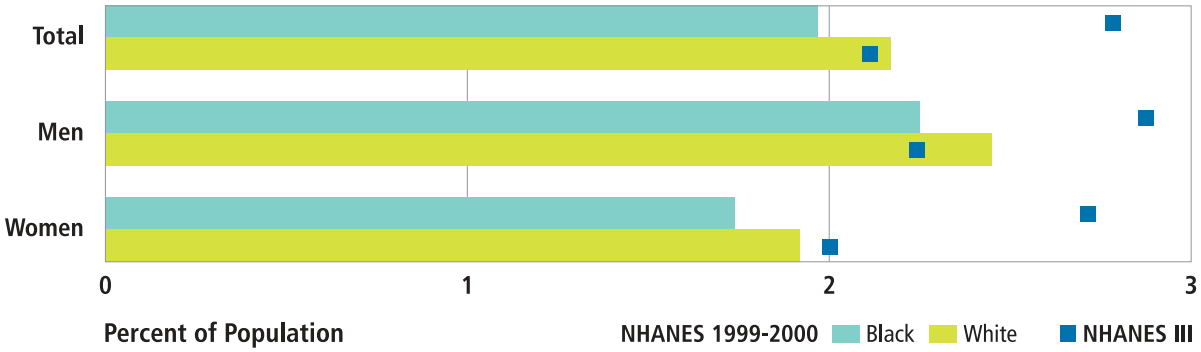
Prevalence of Myocardial Infarction by Race and Age



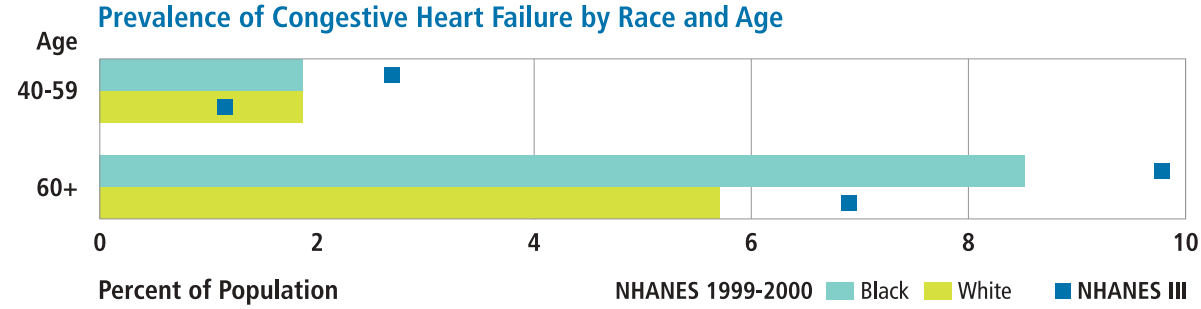
Congestive Heart Failure

The overall prevalence of congestive heart failure (CHF) is about the same for both racial groups (2%), but among those 60 years and older, it is higher in blacks than whites, 9% vs 6%, respectively. The prevalence in this age group has decreased since NHANES III, when rates were 10% and 7% among blacks and whites, respectively.

Prevalence of Congestive Heart Failure by Race and Gender



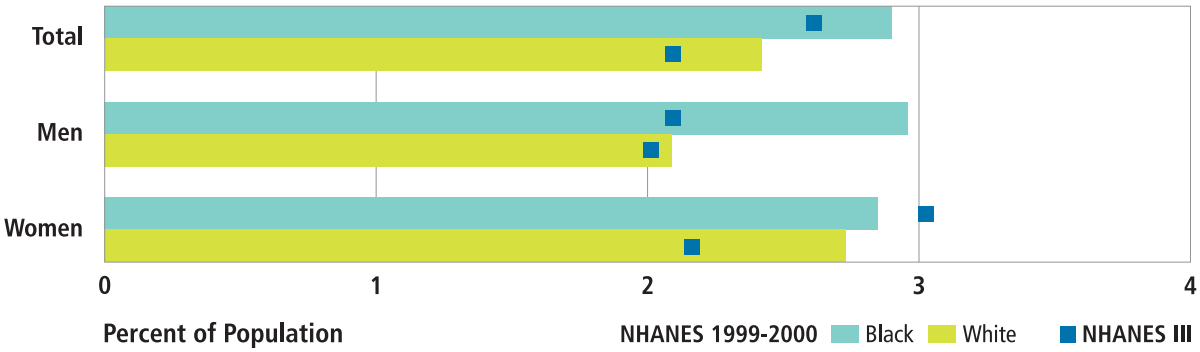
Prevalence of Congestive Heart Failure by Race and Age



Stroke

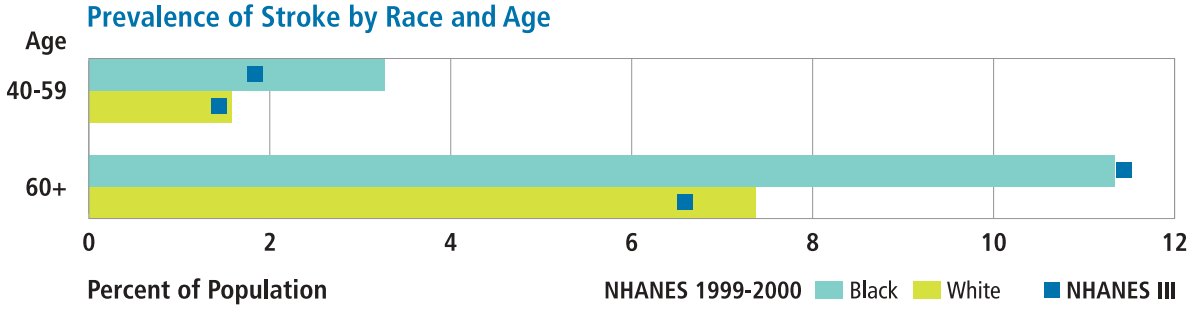
Blacks have a slightly higher rate of stroke than whites when examining prevalence among all adults age 20 and older. Examination by gender and age presents a more striking picture, however. At the time of the NHANES III survey, men in both racial groups had a similar prevalence of stroke (2%). Over time, this rate remained constant among white men, but increased 42% among black men. Although the prevalence rate is similar among black men and women, black women did not experience this increase in prevalence over time.

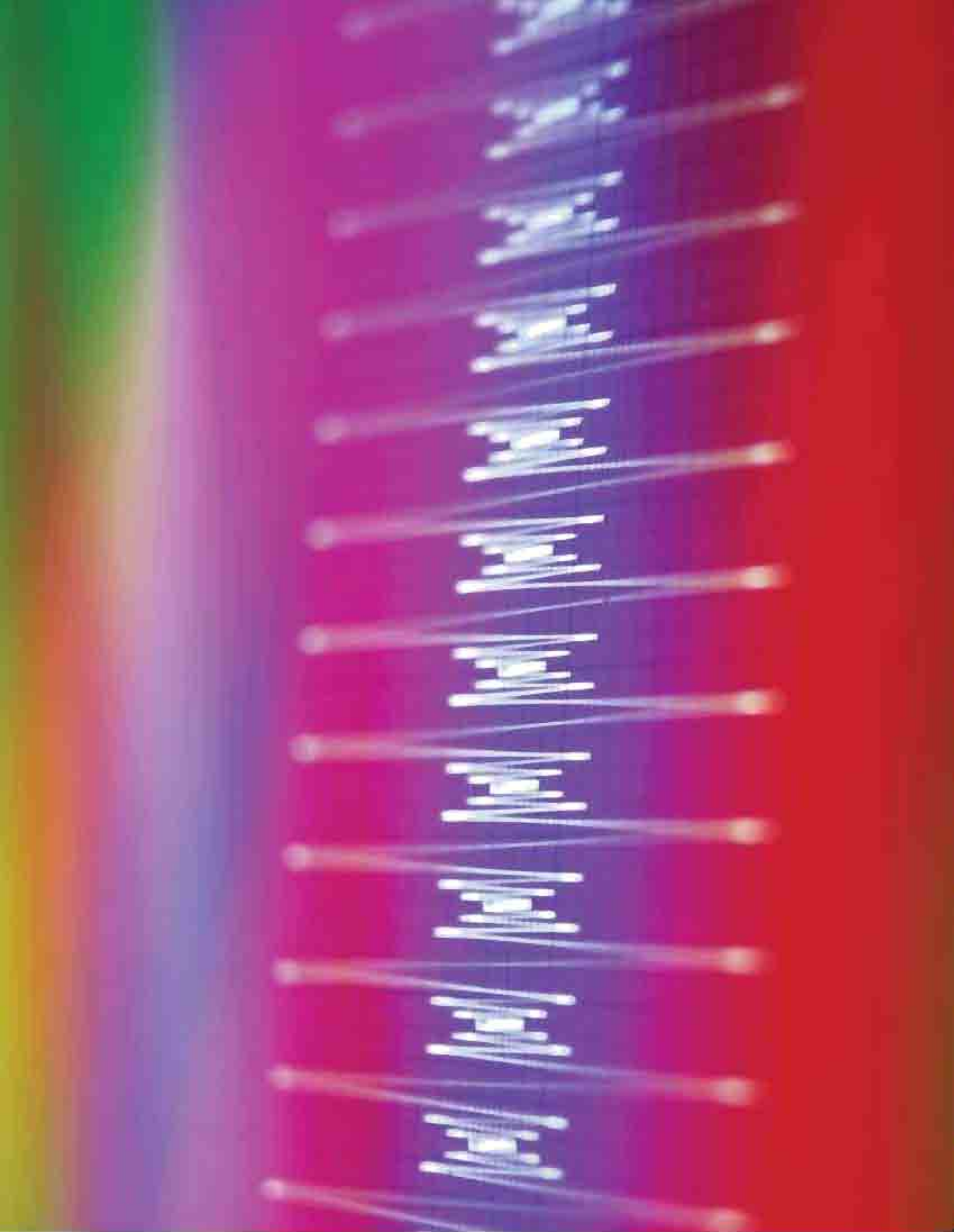
Prevalence of Stroke by Race and Gender



Prevalence increased by 85% from NHANES III to NHANES 1999-2000 among blacks aged 40 through 59, and currently the prevalence of stroke among blacks in this age group is twice that of whites of similar age. While prevalence remained constant over time among blacks 60 years of age and older, at over 11%, the current prevalence rate among older blacks is 54% higher than among older whites.

Prevalence of Stroke by Race and Age



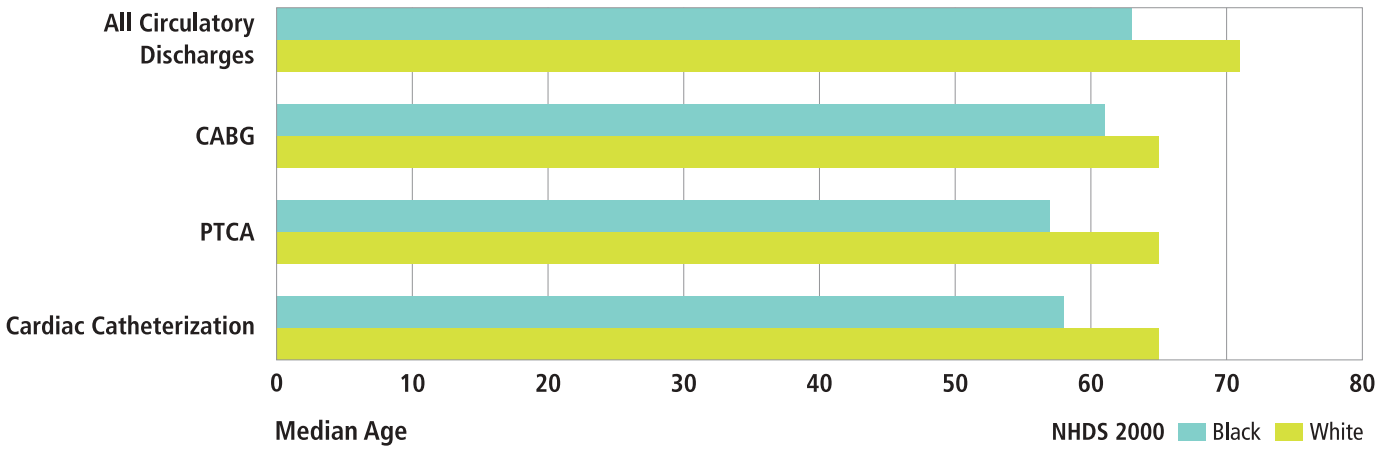


Cardiovascular Procedures

Although racial comparisons of inpatient procedure frequencies must be viewed with caution because racial identifiers are missing for approximately 25% of the observations in the National Hospital Discharge Survey (NHDS) database, it appears that blacks are more likely than whites to be hospitalized for diseases of the circulatory system (ICD-9 390-459), and this disparity is essentially unchanged from 1992 to 2000. In 1992, there were 2.92 circulatory system hospitalizations per 1,000 blacks and 2.56 such hospitalizations per 1,000 whites. In 2000, the number of circulatory system hospitalizations per 1,000 population increased to 3.44 and 2.91 among blacks and whites, respectively.

Black inpatients in 2000 were younger than white inpatients (median age 63 vs 71) among all circulatory disorder hospital discharges, and among those receiving coronary arterial bypass graft (CABG), percutaneous transluminal coronary angioplasty (PTCA), and cardiac catheterization procedures.

Median Age for All Circulatory Disorder Hospital Discharges, CABG, PTCA, and Cardiac Catheterizations

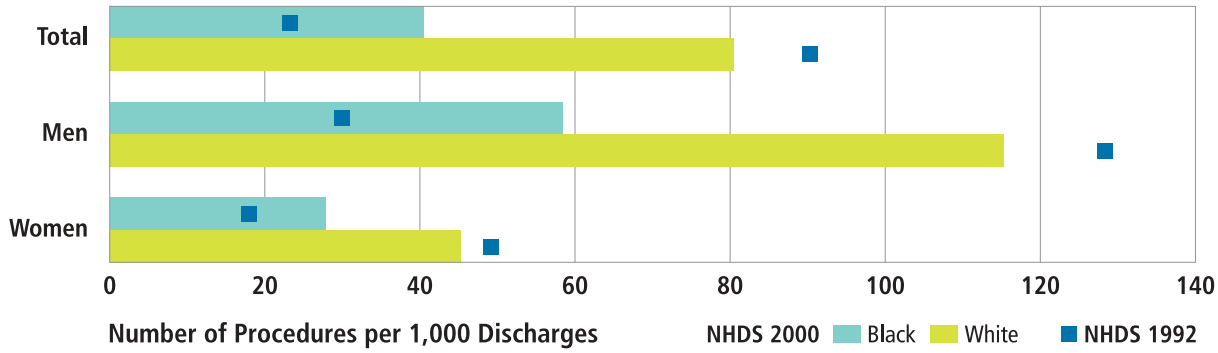


Coronary Artery Bypass Graft (CABG)

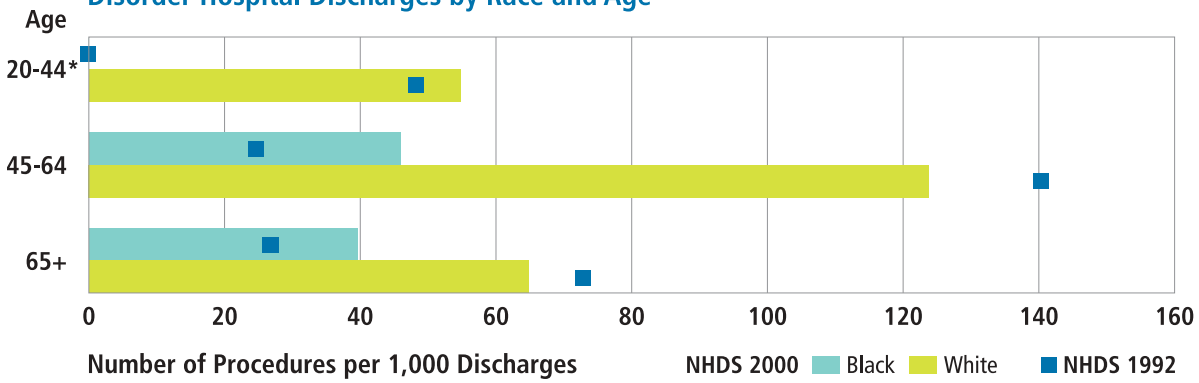
Among those hospitalized for circulatory system disorders in 2000, and for whom race is coded, blacks were about half as likely as whites to undergo CABG, surgery that detours blood around blocked coronary arteries, enabling blood to flow to the heart. The most recent rates for CABG are 40 for blacks vs 81 for whites per 1,000 circulatory disorder hospital discharges. The disparity in rates has persisted but narrowed since 1992, when it was 23 and 90 cases per 1,000 discharges, respectively.

The disparity is greater among men than women. Black men underwent 58 CABG procedures per 1,000 discharges, compared with 115 per 1,000 discharges for white men. The greatest disparity is among middle-aged adults, with blacks in this age group undergoing 46 procedures per 1,000 discharges, compared with 124 procedures per 1,000 discharges for middle-aged whites.

CABG Procedures per 1,000 Circulatory Disorder Hospital Discharges by Race and Gender



CABG Procedures per 1,000 Circulatory Disorder Hospital Discharges by Race and Age

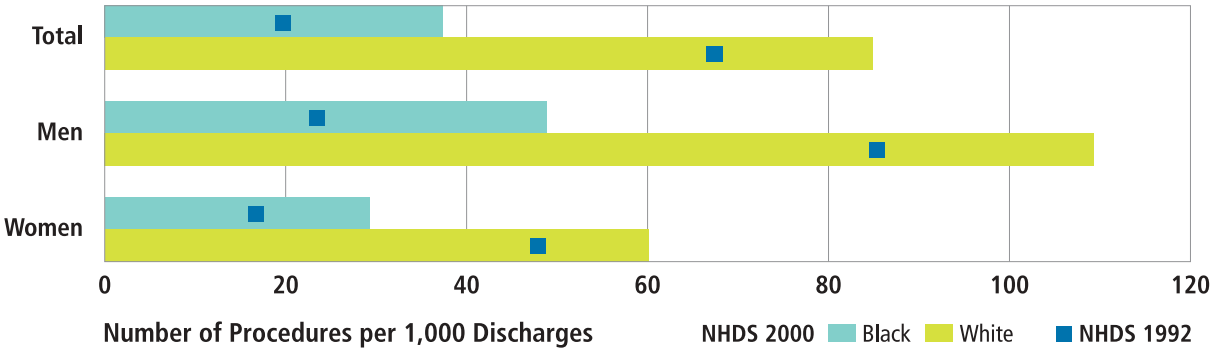


*Absence of NHDS data for blacks aged 20-44 reflects insufficient sample size.

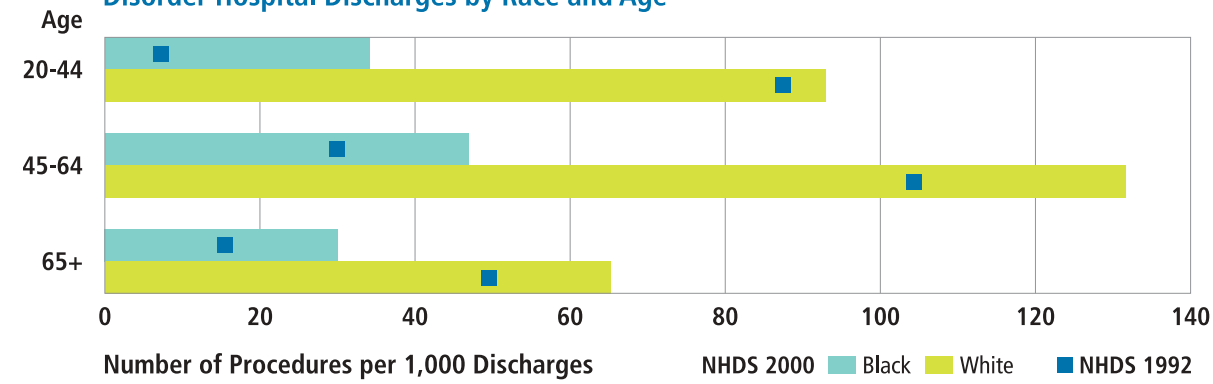
Percutaneous Transluminal Coronary Angioplasty (PTCA)

The same magnitude of disparity exists with respect to the frequency of PTCA, one of the most common non-surgical treatments for opening obstructed coronary arteries. The rate among black patients in 2000 was 37 per 1,000 circulatory disorder hospital discharges, compared with 85 per 1,000 circulatory system discharges for white patients. These rates represent an 89% increase among blacks and a 26% increase among whites since 1992.

PTCA Procedures per 1,000 Circulatory Disorder Hospital Discharges by Race and Gender



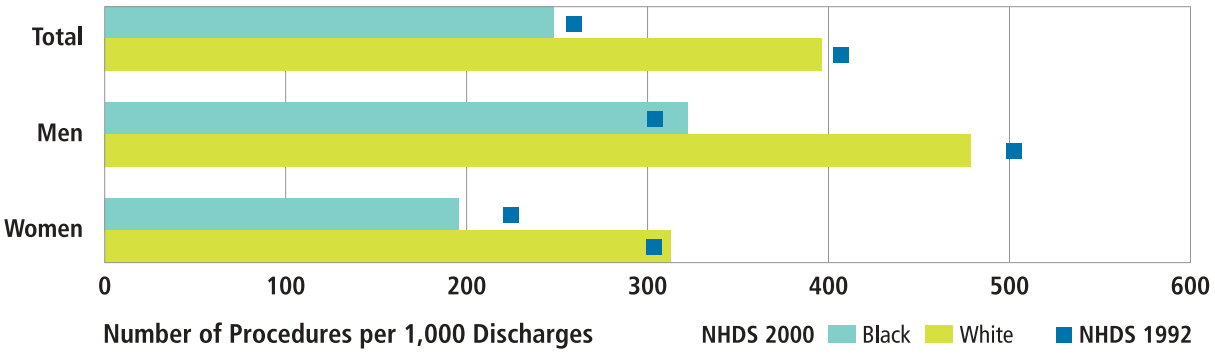
PTCA Procedures per 1,000 Circulatory Disorder Hospital Discharges by Race and Age



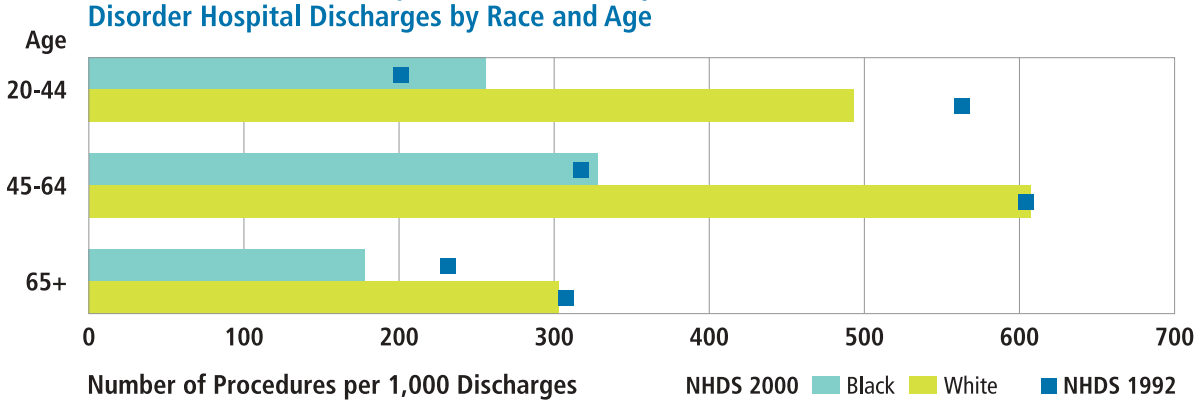
Cardiac Catheterization

Cardiac catheterization, a diagnostic procedure used to detect coronary artery blockage and evaluate heart muscle function, is also performed at a significantly lower rate among black patients. The rates are 248 compared with 396 per 1,000 circulatory disorder hospital discharges among blacks and whites, respectively. This gap remained essentially unchanged from 1992 to 2000.

Cardiac Catheterizations per 1,000 Circulatory Disorder Hospital Discharges by Race and Gender



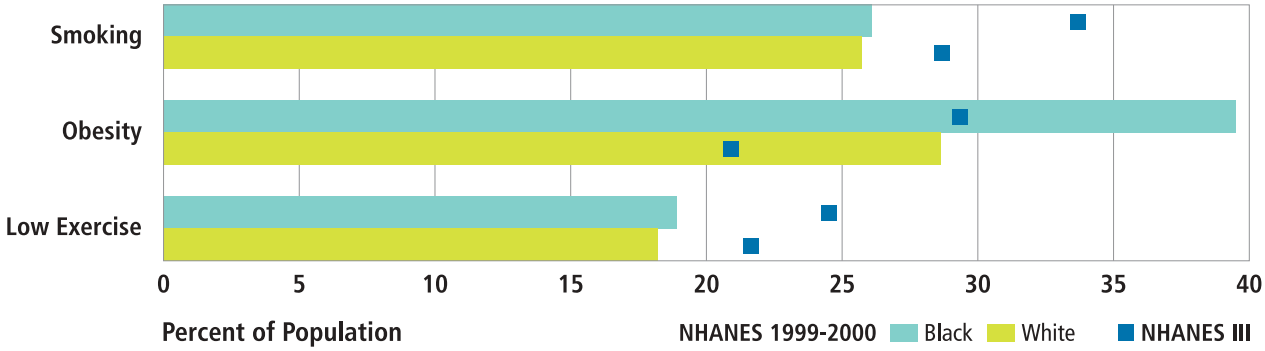
Cardiac Catheterizations per 1,000 Circulatory Disorder Hospital Discharges by Race and Age



Behavioral Risk Factors

Smoking and low exercise are on the decline; obesity is on the rise. While obesity is problematic for blacks and whites, the high prevalence among blacks is particularly striking. In this section we examine gender- and age-specific trends among both racial groups.

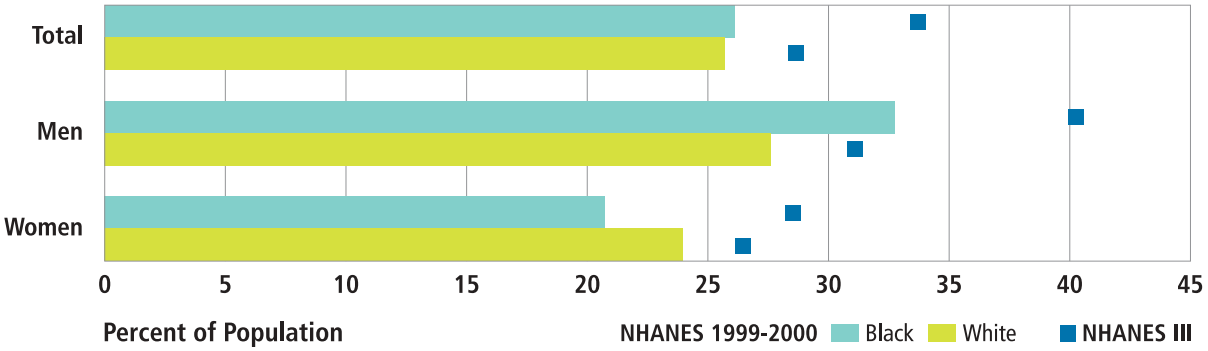
Prevalence of Behavioral Risk Factors by Race



Smoking

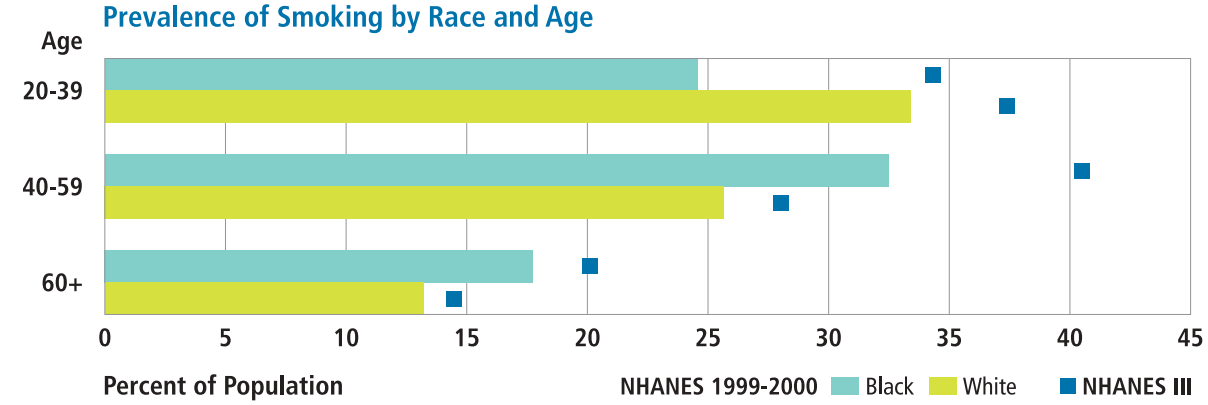
The prevalence of smoking has declined among both racial groups, both genders, and all age groups. With a decline among blacks from 34% in the NHANES III survey to 26% in the NHANES 1999-2000 survey, prevalence is now equal among black and white adults. With a 27% decrease in smoking among black women, black women are now 14% less likely to be smokers than white women. Although smoking among black men decreased 19% during the time period, black men continue to have a higher smoking rate than white men, 33% vs 28%, respectively.

Prevalence of Smoking by Race and Gender



Blacks 40 years of age and over continue to have a higher smoking rate than whites. Although smoking among blacks aged 40 through 59 has decreased by 20% to 32%, this rate exceeds that of same-aged white men by almost 27%. At slightly less than 25%, young black adults have a 26% lower smoking rate than same-aged whites.

Prevalence of Smoking by Race and Age



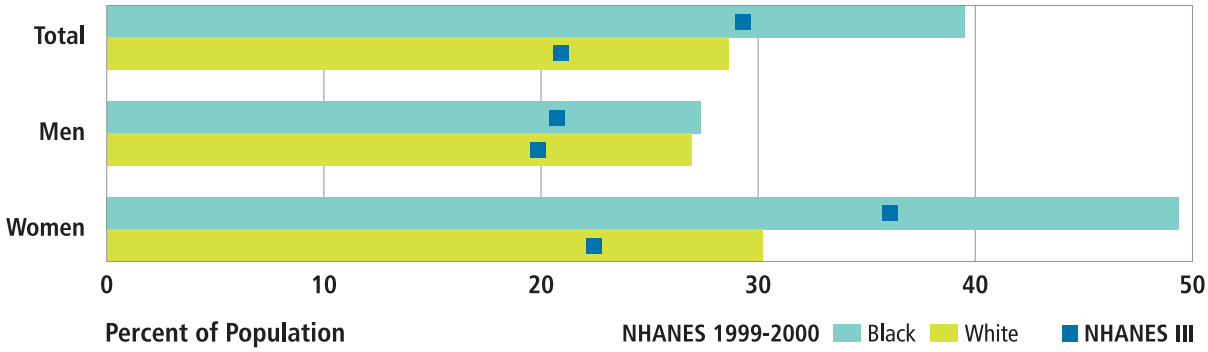
Obesity

Obesity is a problem for the entire population, has worsened over time, and is particularly severe among black women. Based on NHANES 1999-2000, 40% of blacks and 29% of whites are classified as obese (body mass index [BMI] ≥ 30). Based on NHANES III, obesity rates were 29% and 21% for black and white adults, respectively. The percentage of the black population in the highest BMI category (BMI ≥ 40) has doubled from 5% to 10%.

Black women now have an obesity rate of 49%, up from 36%, indicating a 36% increase over time. Fifteen percent of black women are in the highest obesity category. The obesity rate among white women is 30%, up from 22%, indicating a 35% increase over time. Men are gaining also, with increases of 32% and 36% among black and white men, respectively.

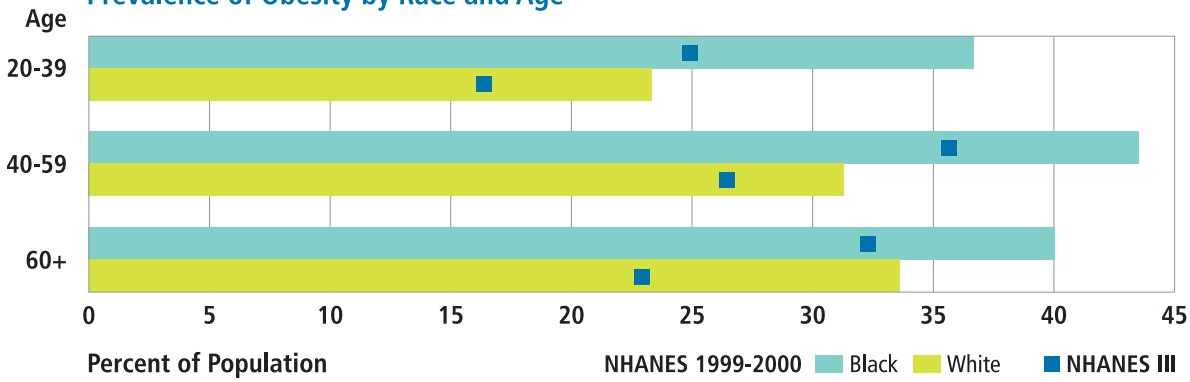
The prevalence of the combined obese plus overweight (BMI 25 through 29) population is 69% among blacks and 62% among whites.

Prevalence of Obesity by Race and Gender



Although the youngest adults have the lowest rates of obesity, they had the greatest increase in obesity prevalence over time, 48% among blacks and 43% among whites. Forty-four percent of middle-aged blacks are obese compared with 31% of whites in this age group.

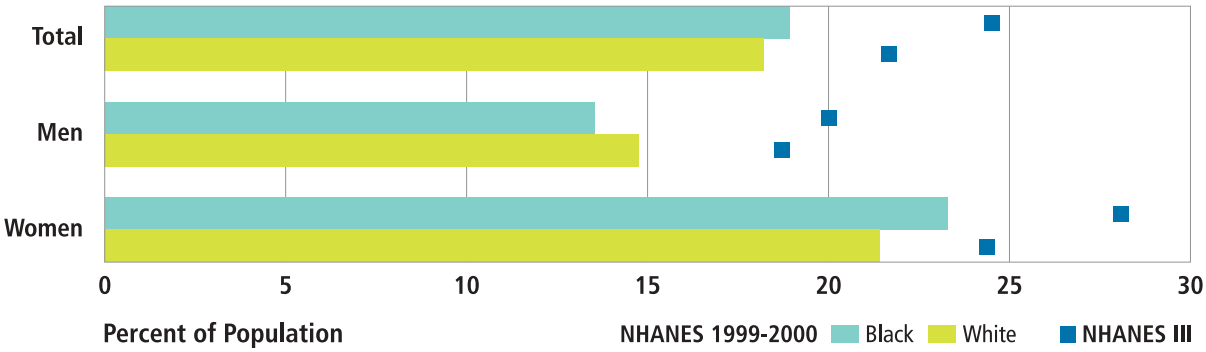
Prevalence of Obesity by Race and Age



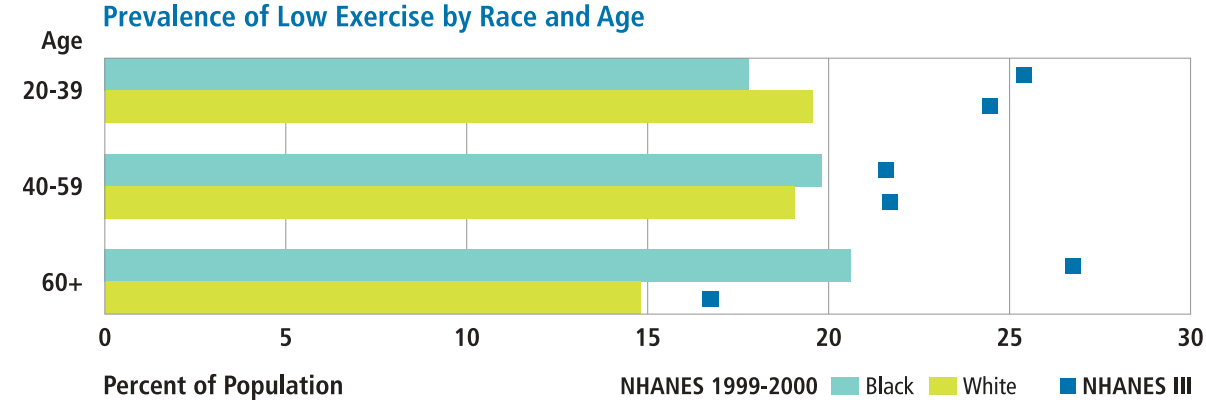
Low Exercise

Self-reported lack of exercise (percent who report being less active than their peers) is about equal for blacks and whites, 19% vs 18%, respectively. Both populations show improvement since NHANES III when the corresponding percentages were 24% and 22%. Women in both racial groups report being less active than their male counterparts: 23% of black women and 21% of white women report low exercise. In comparison, 14% and 15% of black men and white men, respectively, report low exercise.

Prevalence of Low Exercise by Race and Gender



Prevalence of Low Exercise by Race and Age

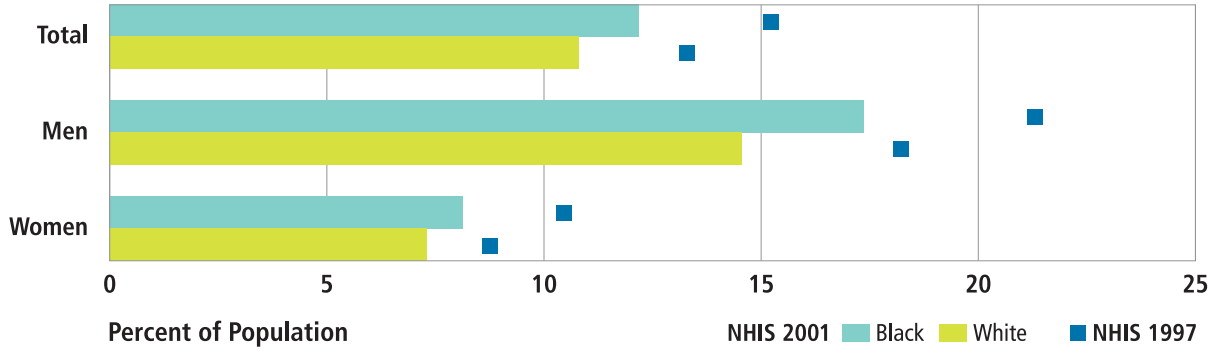


Healthcare Environment

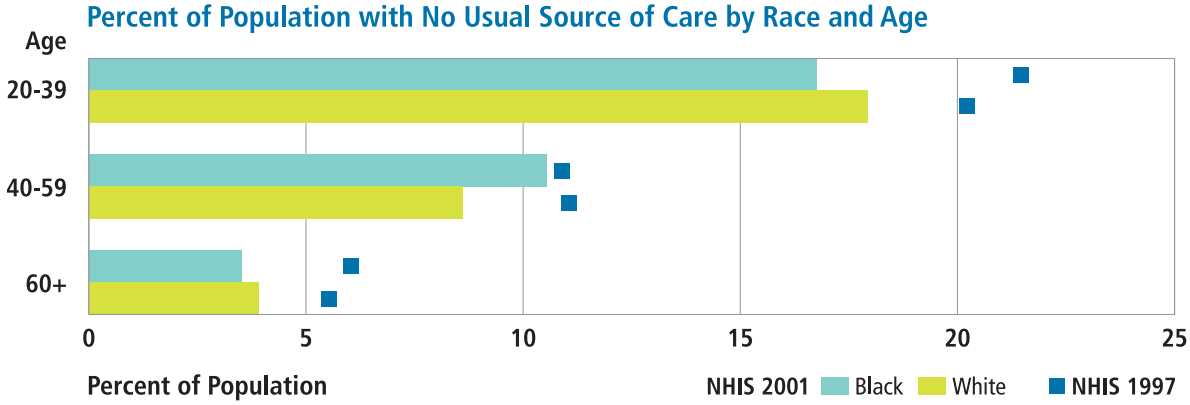
Usual Source of Care

Seventeen percent of black men and 8% of black women reported in the 2001 National Health Interview Survey (NHIS) that they have no usual source of care. This is an improvement from 1997 when lack of a usual source of care was reported by 21% and 10% of black men and women, respectively. Regardless of race, men are less likely than women to have a usual source of care, as are adults aged 20 through 39.

Percent of Population with No Usual Source of Care by Race and Gender



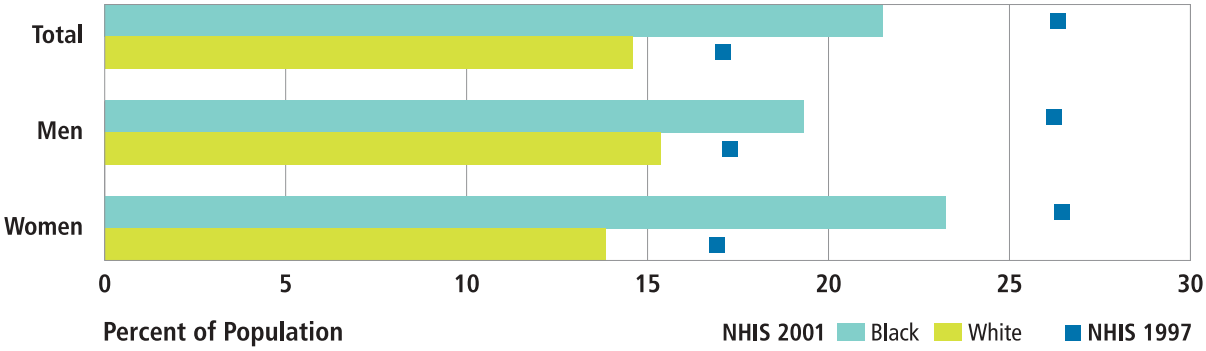
Percent of Population with No Usual Source of Care by Race and Age



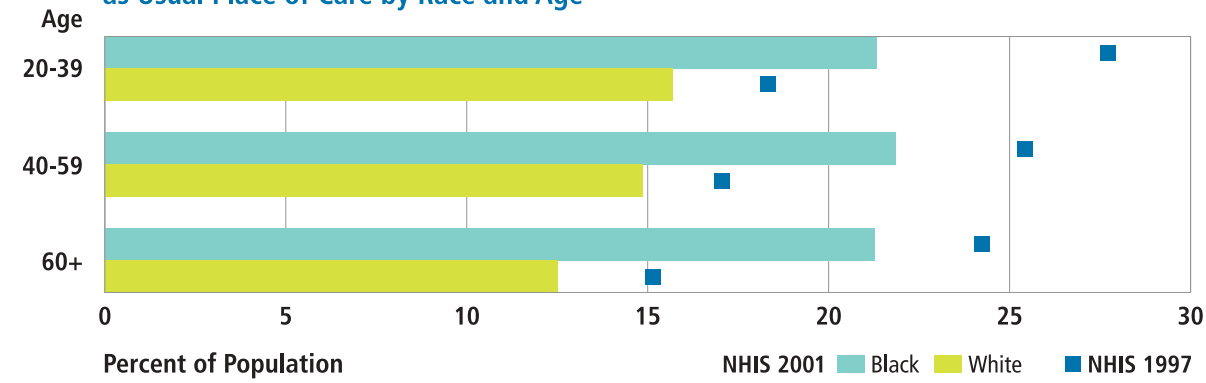
Black men and women are more likely than whites to report that their usual place of care is a clinic, hospital emergency room, or hospital outpatient facility, rather than a doctor's office.

From 1997 to 2001 the proportion of men and women reporting no usual place of care, or that their usual place of care is a clinic, emergency room, or outpatient facility, has decreased for both blacks and whites. Sixty-one percent of blacks and 67% of whites now report that their usual place of care is a doctor's office, up from 52% and 63% among blacks and whites, respectively, in 1997.

Percent of Population Using Clinics, Emergency Rooms, or Outpatient Facilities as Usual Place of Care by Race and Gender



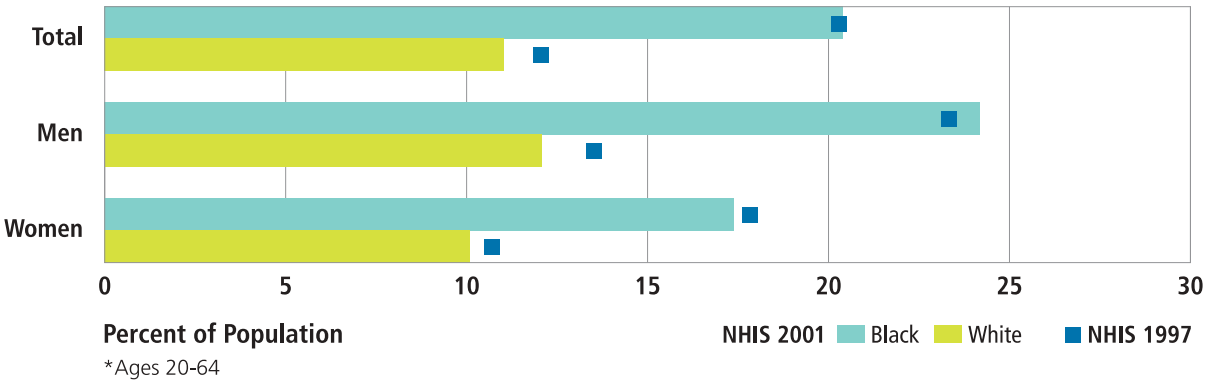
Percent of Population Using Clinics, Emergency Rooms, or Outpatient Facilities as Usual Place of Care by Race and Age



Health Insurance

Blacks are almost twice as likely as whites to lack health insurance coverage. In the 2001 NHIS, 20% of blacks and 11% of whites reported having no health insurance. Little changed in the disparity since 1997 when 20% of blacks and 12% of whites reported no coverage.

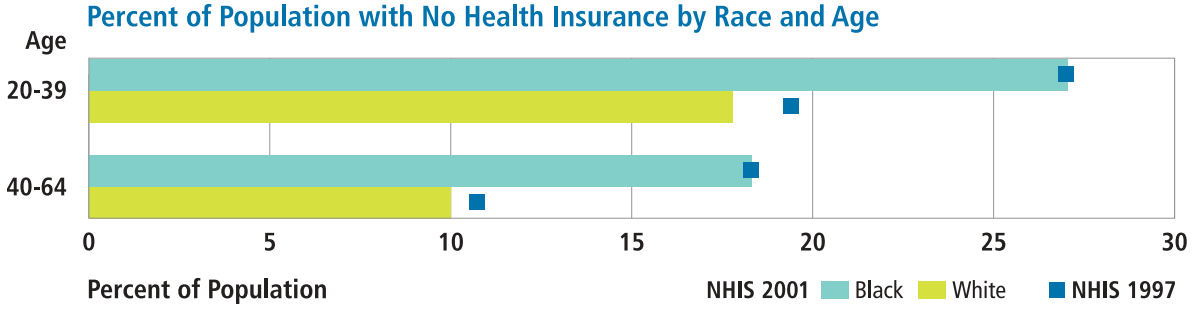
Percent of Population* with No Health Insurance by Race and Gender



*Ages 20-64

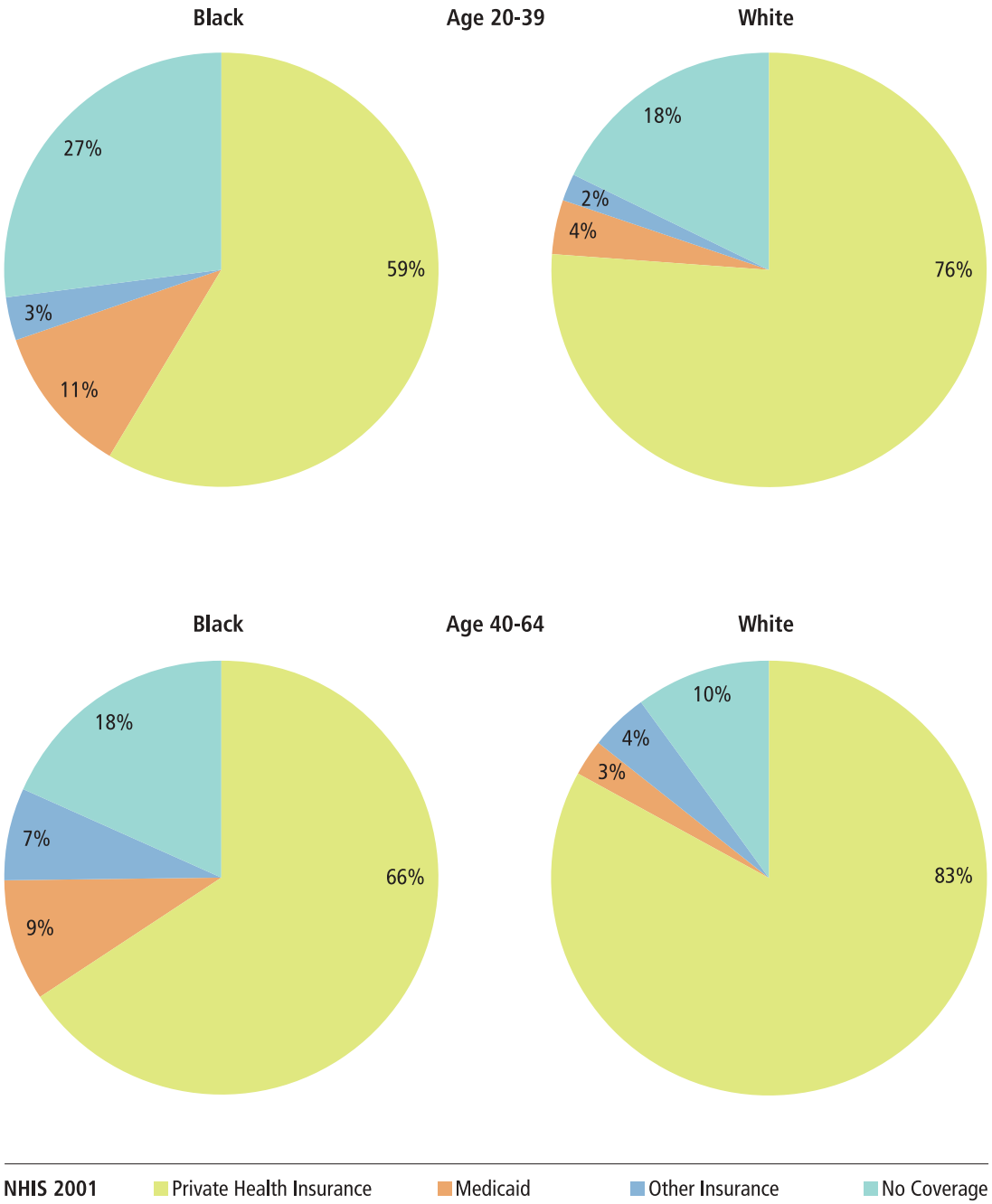
The disparity in coverage between blacks and whites exists for younger as well as middle-aged adults, and the lack of coverage is particularly high among those aged 20 through 39 (27%). The gap has not closed from 1997 to 2001.

Percent of Population with No Health Insurance by Race and Age



Blacks are less likely than whites to have private health insurance. Among all adults aged 20 and older, 59% of blacks and 78% of whites reported having private insurance in 2001. This disparity is essentially unchanged from 1997 levels when 58% of blacks and 78% of whites had private insurance.

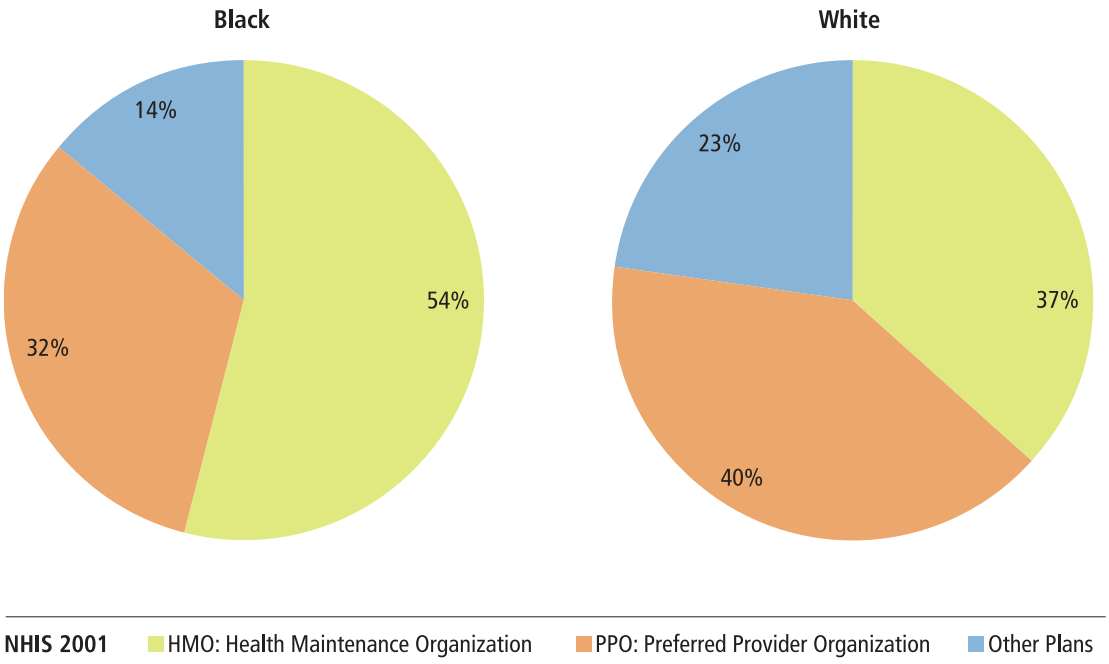
Health Insurance Coverage by Race and Age



The percentage of blacks with Medicaid coverage (a means-tested program) far exceeds that of whites, 11% vs 4% in 2001, little changed from 1997.

Among persons with private health insurance, blacks are more likely than whites to be enrolled in health maintenance organizations (HMO), 54% vs 37%.

Type of Plan Enrollment for Those With Private Health Insurance



Appendix I: Methods

Data Sources

National Health and Nutrition Examination Survey (NHANES)

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

NHANES III, 1988-1994

NHANES III is a sample survey of approximately 34,000 persons, designed to obtain nationally representative information on the health and nutritional status of the non-institutionalized population of the United States, through interviews, laboratory tests, and physical examinations. The NHANES subset used in these analyses was restricted to non-Hispanic black and non-Hispanic white adults 20 and older. Sample sizes are as follows: blacks = 4,709; whites = 7,121.

NHANES 1999-2000

NHANES 1999-2000, the most recent release in the NHANES series, is based on a nationally representative sample of approximately 10,000 persons, approximately 5,000 over the age of 20. Many of the same questions and topics covered in NHANES III are included in NHANES 1999-2000, allowing for analyses of change over time in population health characteristics. Sample sizes for these analyses are as follows: blacks = 861; whites = 1,986.

Note on sample size: The reader should keep in mind that although the NHANES 1999-2000 sample is nationally representative, it is relatively small. Consequently, NHANES 1999-2000 estimates of prevalence, awareness, treatment, and control, and their change since NHANES III, are subject to large variability. This is especially true when focusing on subpopulations defined by age or gender, or estimating rates for relatively rare conditions such as diabetes, stroke, and CHF. Estimates should therefore be regarded as preliminary, subject to revision as additional cycles of NHANES data are collected and merged with the current database.

National Health Interview Survey (NHIS), 1997, 2001

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

NHIS is a nationally representative interview survey based on a sample of the non-institutionalized US population, including approximately 33,000 persons over the age of 20. Surveys in the series have been conducted annually since 1957, with the last major restructuring occurring in 1997. Data on health insurance and access to care from the surveys of 1997 and 2001 were used in selected comparisons included in this report. Sample sizes are as follows: blacks = 4,941 (NHIS 1997) and 4,475 (NHIS 2001); whites = 23,639 (NHIS 1997) and 21,392 (NHIS 2001).

The National Hospital Discharge Survey (NHDS), 1992, 2000

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

The National Hospital Discharge Survey, which has been conducted annually since 1965, is a national probability survey of inpatients discharged from non-Federal short-stay hospitals in the United States. The NHDS collects data from a sample of approximately 270,000 inpatient records acquired from a national sample of about 500 hospitals. Data are available on patient characteristics including age, race, and sex; administrative information including patient disposition, expected sources of payment, and source of admission; and medical information including diagnoses and procedures. The 1992 and 2000 versions of NHDS were used to support selected analyses in this report. Sample sizes are as follows: blacks = 23,508 (NHDS 1992) and 31,843 (NHDS 2000); whites = 124,775 (NHDS 1992) and 128,876 (NHDS 2000).

Compressed Mortality File (CMF) 1992, 2000

US Department of Health and Human Services
Centers for Disease Control and Prevention (CDC)
National Center for Health Statistics

CMF is a county-level national mortality and population database. Counts and rates of death can be obtained by place of residence (US, state, and county); age (17 groups); race (white, black, American Indian/Alaskan Native, Asian/Pacific Islander and other); gender; year; and underlying cause of death. Data from 1992 and 2000 were used for this analysis.

CDC WONDER On-line Database (1992 age-adjusted rates) http://wonder.cdc.gov/
Accessed: June 01-02, 2003.

CDC WISQARS On-line Database. (2000 age-specific rates)
http://www.cdc.gov/ncipc/wisqars/
Accessed: June 01-02, 2003.

2000 age-adjusted rates: Mimiño AM, Arias E, Kochanek KD, Murphy SL, Smith BL. Deaths: Final Data for 2000. National vital statistics reports; vol. 50, no. 15. Hyattsville, Maryland: National Center for Health Statistics, 2002. Page 59, Table 16.

Diagnostic Classifications Used in Mortality Tables

Cause of Death	ICD-9-CM code	ICD-10-CM code
Heart Disease	390-398, 402, 404-429	I00-I09, I11, I13, I20-I51
Cerebrovascular (Stroke)	430-438	I60-I69
Myocardial Infarction (Heart Attack)	410	I21-I22

Definitions

Disease or Risk Factor:

Hypertension: Persons were classified as having hypertension if their average of multiple measurements of blood pressure at the time of the NHANES examination was elevated (greater than or equal to 140 mm Hg systolic, or greater than or equal to 90 mm Hg diastolic), or they were taking antihypertensive medication. The elevated blood pressure threshold for persons with diabetes was systolic greater than or equal to 130 mm Hg, or diastolic greater than or equal to 80 mm Hg. Persons were classified as having undiagnosed hypertension if they tested positive but reported no previous diagnosis.

Diabetes: Persons were classified as having diabetes if they reported in the NHANES interview having been told by a physician they have diabetes, or if their fasting plasma glucose was greater than or equal to 126 mg/dL. The morning examination subset of the NHANES sample was used to ensure the validity of the fasting plasma glucose test data. Persons were classified as having undiagnosed diabetes if they tested positive but reported no previous diagnosis.

High cholesterol: NHANES respondents were classified as having high cholesterol if their total cholesterol was greater than or equal to 240 mg/dL.

Hyperlipidemia: NHANES respondents were classified as having hyperlipidemia if they were taking an antilipemic drug, or if their LDL cholesterol exceeded the appropriate risk-based threshold established in the ATP III guidelines. Persons were classified as having undiagnosed hyperlipidemia if they tested positive but reported no previous diagnosis.

Smoking: A current smoker is defined as someone who smokes "every day" or "some days" and who smoked at least 100 cigarettes in his/her lifetime.

Obesity: A person was classified as obese if his/her BMI (weight in kilograms divided by height in meters squared) was greater than or equal to 30.

Low exercise: Exercise behavior was captured by responses to the question "Are you more or less active than your peers?"

Disease or Risk Factor Rates:

Prevalence percentage: Persons with the disease or condition (diagnosed plus undiagnosed) as a percentage of the population.

Awareness percentage: Persons diagnosed with the disease or condition as a percentage of prevalent cases.

Treatment percentage: Persons being treated for the disease or condition (i.e., taking prescription medicine), as a percentage of prevalent cases.

Control percentage: Persons with the disease or condition who are controlled at or below the appropriate treatment goal, as a percentage of prevalent cases.

Control among treated percentage: Persons being treated for the disease or condition who are controlled at or below the appropriate treatment goal, as a percentage of treated cases.

Appendix II: Statistical Significance Testing of NHANES Comparisons

Hypertension and Diabetes Comparisons: Significance Test p-values

		Gender		Age		
	Total Population	Men	Women	20-39	40-59	60+
Hypertension						
Difference in rates between blacks and whites in NHANES 1999-2000 with respect to:						
Prevalence	0.02	0.20	0.02	0.14	<0.01	<0.01
Awareness	0.10	—	<0.01	—	—	<0.01
Treatment	—	—	0.06	—	—	<0.01
Control among treated	<0.01	<0.01	0.10	—	<0.01	—
Difference in rates between blacks in NHANES 1999-2000 and blacks in NHANES III with respect to:						
Prevalence	0.07	—	0.08	—	0.01	0.15
Awareness	—	—	—	0.18	—	—
Treatment	0.06	—	0.17	—	0.08	<0.01
Control among treated	—	—	—	0.14	—	0.10
Difference in rates between whites in NHANES 1999-2000 and whites in NHANES III with respect to:						
Prevalence	0.02	0.09	0.05	0.19	0.10	0.09
Awareness	—	—	—	—	—	—
Treatment	0.08	<0.01	—	—	0.11	0.17
Control among treated	<0.01	<0.01	—	—	<0.01	0.07
Diabetes						
Difference in rates between blacks and whites in NHANES 1999-2000 with respect to:						
Prevalence	—	—	<0.01	—	—	<0.01
Awareness	—	—	—	—	—	—
Treatment	—	0.11	—	—	—	0.13
Control among treated	*	*	*	*	*	*
Difference in rates between blacks in NHANES 1999-2000 and blacks in NHANES III with respect to:						
Prevalence	—	—	—	—	—	—
Awareness	—	—	—	—	—	—
Treatment	0.16	—	—	—	—	<0.01
Control among treated	*	*	*	*	*	*
Difference in rates between whites in NHANES 1999-2000 and whites in NHANES III with respect to:						
Prevalence	—	—	—	0.11	—	—
Awareness	—	—	—	—	—	—
Treatment	—	—	—	—	—	0.08
Control among treated	*	*	*	*	*	*

— Indicates p-value ≥0.20
* Estimates are not considered reliable
Indicates p-value ≤0.05

Cardiovascular Disease and Behavorial Risk Factor Prevalence: Significance Test p-values

		Gender		Age		
	Total Population	Men	Women	20-39	40-59	60+
Difference in prevalence rates between blacks and whites in NHANES 1999-2000 with respect to:						
High Cholesterol	<0.01	<0.01	0.10	—	0.03	—
Heart Attack	—	—	—	*	—	—
Congestive Heart Failure	—	—	—	*	—	—
Stroke	—	—	—	*	—	—
Smoking	—	—	—	0.03	—	—
Obesity	<0.01	—	<0.01	<0.01	<0.01	0.10
Low Exercise	—	—	—	—	—	—
Difference in prevalence rates between blacks in NHANES 1999-2000 and blacks in NHANES III with respect to:						
High Cholesterol	0.05	0.04	—	—	0.03	<0.01
Heart Attack	—	—	0.04	*	—	—
Congestive Heart Failure	—	—	—	*	—	—
Stroke	—	—	—	*	—	—
Smoking	<0.01	0.02	0.01	<0.01	0.02	—
Obesity	<0.01	0.01	<0.01	<0.01	0.02	0.04
Low Exercise	<0.01	—	0.11	<0.01	—	—
Difference in prevalence rates between whites in NHANES 1999-2000 and whites in NHANES III with respect to:						
High Cholesterol	—	—	—	—	—	<0.01
Heart Attack	—	—	—	*	—	—
Congestive Heart Failure	—	—	—	*	—	—
Stroke	—	—	—	*	—	—
Smoking	—	—	—	—	—	—
Obesity	<0.01	<0.01	<0.01	<0.01	0.13	<0.01
Low Exercise	0.02	—	—	0.04	—	—

— Indicates p-value ≥0.20
* Estimates are not considered reliable
Indicates p-value ≤0.05

Note: Standard errors for all NHANES estimates were calculated using SUDAAN software, according to the approach outlined in the NHANES analytic guidelines. These standard errors were used to test the statistical significance of black/white comparisons generated from NHANES 1999-2000 data, and the change over time from NHANES III to 1999-2000 within each racial group. Appendix II presents the p-values of the statistically significant differences ($p \leq 0.05$), and those differences that are of borderline significance ($p < 0.20$). Because the NHANES 1999-2000 sample is relatively small, estimates and subgroup comparisons using these data can be subject to significant sampling variability.

U.S. Pharmaceuticals

PG002669

Printed in USA
August 2003

Design: Pfizer Corporate Graphic Design, NY 22382. CRW.sa